

John Holland Group Ltd Pty

Detailed Site Investigation – Redmayne Road Bridge, Horsley Park, NSW 2175

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John Holland Group Ltd Pty

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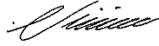
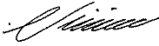
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EXECUTIVE SUMMARY

EDP Consultants Pty Ltd (EDP) was engaged by John Holland Pty Ltd (John Holland) to conduct a Detailed Site Investigation (DSI) within an area named Redmayne Road Bridge (Infra 22) (the Site). The Site is situated in the inner median under the M7 Motorway. The Site area is to be affected by excavation, and the construction works planned for the area consist of installing temporary piling pads under the M7 Motorway bridge, working platforms, and excavation of permanent bridge piles as part of the M7-M12 Integration Project.

This DSI will form part of a broader contamination soil assessment within the M7 Widening. It has been prepared to satisfy the NSW M7 Condition of Approval (NSW M7 CoA) (SSI -663-Mod-6), Revised Environmental Management Measures (REMMS), and developed in accordance with Transport for NSW (TfNSW) Specification D&C G36 Environmental Protection.

The objectives of the DSI were to comply with SSI 663 M7 CoA D67 and Revised Environmental Management Measure C2, which requires the preparation of a report in accordance with the *National Environment Protection (Assessment of Site Contamination) Measure 1999 (amended in April 2013)* (NEPM 2013) to characterise the extent of contamination within the site. The desired outcomes of the investigation were to determine whether concentrations of contaminants would preclude assessed soils for use/re-use within the M7- M12 Integration project and whether the land is suitable (for the intended final land use) or can be made suitable through remediation.

This intrusive assessment involved the advancement of two boreholes on the southbound and northbound bridge batters, four boreholes on an ancillary area adjacent to the bridges and soil sampling to a maximum depth of 1.0 meter below ground level (mbgl). In addition, soil samples were collected in two boreholes drilled for geotechnical assessment, and these boreholes were advanced by a drill rig to a depth consistent with the surface of bedrock.

Soil analytical results were compared against the adopted human health and ecological criteria for the site, in accordance with NEPM 2013, the HEPA PFAS National Environmental Management Plan V2 2020 (NEMP 2020) and other applicable guidelines.

A Tier 1 Qualitative review of the data set presented no exceedances of the adopted human health risk criteria for health investigation levels (HILs) and health screening levels (HSLs) for commercial and industrial criteria identified in any soil samples collected and analysed.

Based on the review of the site history, desktop assessment, site inspections, intrusive investigation and analytical results forming this DSI, EDP makes the following conclusions:

- Analytical results indicated no evidence of contamination presenting an unacceptable risk to human health or the environment for the proposed use under commercial/industrial land use settings.
- Although contamination was not identified onsite in the context of the proposed land use, all future unknown instances of contamination would be appropriately managed under the site's unexpected finds procedure and asbestos management plan as references below:
 - M7-M12 Integration project Construction Environmental Management Plan – Appendix B: Construction Contamination Land Management Sub-plan – Appendix B: Asbestos Management Plan (M712UDC-JHGRP-M7A-EN-PLN-000077_CCLMP_RevE_AppB).
 - M7-M12 Integration project Construction Environmental Management Plan - Appendix B4: Construction Soil and Water Management Sub-plan – Appendix N: Asbestos Management Plan (M7M12 UDC-JHGRP-M7A-EN-PLN-000718_CSWMP_RevH_AppN).

Based on the findings of this report, areas previously identified as moderate and/or high risk in the Contamination Impact Assessment (CIA) (AECOM 2022) conducted for the site under Condition 1A of Schedule 1, soils within the investigation extent of the site are considered low risk and acceptable for re-use during the construction of the M7M12 Integration project and for the final intended land use. The preparation of this DSI is deemed to satisfy the NSW M7 CoA D67, Revised Environmental Management Measure C2.

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1. INTRODUCTION

EDP Consultants Pty Ltd (EDP) was engaged by John Holland Group Pty Ltd (John Holland) to conduct a Detailed Site Investigation (DSI) within an area named Redmayne Road (the Site). The Site area is to be affected by excavation and the construction works which will consist of the installation of temporary piling pads under the M7 Motorway bridge, working platforms and the excavation of permanent bridge piles and an ancillary area to the west of the bridge, as part of the M7 Motorway (Modification 6 Widening) (M7 Widening) of the M7-M12 Integration project (herein referred to as the Project).

The Project has Commonwealth approval by the Federal Minister for the Environment under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act, EPBC 2018/8286) and the NSW Minister for Planning under the Environment Planning and Assessment Act 1979 (EP&A Act, SSI 9364 and SSI-663-Mod-6). The Project is being delivered by the Western Sydney Orbital Company (WSO Co) and John Holland.

This DSI will form part of a broader contamination soil assessment within the M7 Widening and has been prepared to satisfy the NSW M7 Condition of Approval (NSW M7 CoA) (SSI -663-Mod-6, Revised Environmental Management Measures (REMMS) and developed in accordance with Transport for NSW (TfNSW) Specification D&C G36 Environmental Protection.

The subject area of this assessment includes bridge structures and underbridge area underneath the Redmayne Road Bridge (Infra 22.10 (NB) / 22.11 (SB)), which is situated within the inner median area under the M7 Motorway, between chainage kilometre (km) 15,200 and km 15,150.

The Site comprises three separate areas consisting of northbound and southbound bridge batter, and an ancillary area to west of the existing M7 Motorway. The total area is approximately 750 m². The Site location and boundaries of the area subject to this assessment are provided in **Figures 1 and 2 in Appendix A**.

2. PURPOSE & OBJECTIVES

As mentioned, this DSI has been prepared to satisfy requirements of the NSW M7 CoA (SSI 663-Mod-6), conditions D67 and M7 REMMs C2 presented in **Section 4** of this report. The objectives of the DSI were to:

- Assess the nature and extent of contamination at the site based on historical site usage by performing desktop analysis and site history reviews and collecting and analysing sufficient and representative data from all relevant media (soil);
- Preparation of a DSI report that documents the findings of the investigation, the data quality and limitations in general accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 (amended in April 2013) (NEPM 2013); and
- Within the DSI, assess the potential risks to human health and the environment posed by any identified contamination, considering the current and proposed land uses, and realistic linkages between exposure pathways and receptors to determine whether concentrations of contaminants would preclude the intended final land use, or whether the site can be made suitable for the proposed land use through remediation or management.

3. BACKGROUND

The M7-M12 Integration project includes the M12 East package and the widening of the M7 Motorway (Mod 6 Widening).

The main features of the M7 Widening involve:

- Widening the M7 Motorway into the existing median for a length of approximately 26 kilometres (km) along the Westlink M7, from about 140 metres (m) south of the Kurrajong Road overhead bridge at Prestons (southern end) extending to Richmond Road interchange in Oakhurst/Glendenning (northern end), excluding the section between M4 Motorway/Westlink M7(Light Horse) Interchange; and
- Widening of 43 existing northbound and southbound bridges on the Westlink M7 at 23 locations within the centre median and on the outside of the bridges on the approach to the M4 Motorway from Old Wallgrove Road.

The M7 Widening project has been the subject of a Contamination Impact Assessment (CIA) report developed by AECOM (2022) to address the relevant Secretary's Environmental Assessment Requirements (SEARs) issued for the proposed modification.

The CIA report has been prepared to assess the potential contamination impacts of construction and operation of the proposed modification on human and ecological receptors; identify potential acid sulfate soil and soil salinity impacts; assess the impacts on soil and land resources (particularly soil erosion and sediment transport); and to identify appropriate mitigation and management measures to address the impacts identified.

Potential existing areas of contamination were identified within the study area, including the area that comprises the Site, that could potentially have an adverse impact on human or ecological health if disturbed during construction or remain during operation of the proposed roadway.

The assessment performed by AECOM and reviewed in detail by EDP concluded that the area that encompasses the Site poses a moderate likelihood for risk of contamination due to the historical use of the land and its surrounding areas.

EDP was engaged by John Holland to conduct four (4) DSIs of the median strip of the M7 Widening. The Site is situated between construction Zones B and C. The reports which captured these zones are entitled 'Detailed Site Investigation M7 Widening – Zone B – Sydney NSW', report S-05667.DSI.M7_Zone B_Final, dated 8 February 2024 (EDP 2024) and 'Detailed Site Investigation M7 Widening – Zone C – Sydney NSW', report S-05667.DSI.M7_Zone C_Final, dated 25 January 2024 (EDP 2024a).

Greater details on the findings of the AECOM assessment and additional investigation reports pertaining to the site are provided in **Section 6**.

4. COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

4.1 Technical Framework

The assessment was undertaken in accordance with the following:

- Australian Standard (AS 4482.1-2005)¹ Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi volatile compounds;¹
- Australian Standard (AS 4482.2-1999)¹ Guide to the sampling and investigation of potentially contaminated soil – Volatile Substances;¹
- Australian Standard (AS 4964-2004) Method for the qualitative identification of asbestos in bulk samples;

¹ AS 4482.1-2005 and AS 4482.2-1999 are currently under revision, they have been referenced for completeness.

- Cooperative Research Centre for Contamination Assessment and Remediation of the Environment: Technical Report No. 10, Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater Part I: Technical development document, 2011 (CRC Care, 2011);
- Cooperative Research Centre for Contamination Assessment and Remediation of the Environment: Technical Report No. 39 Risk-based management and remediation guidance for benzo(a)pyrene 2017 (CRC Care, 2017);
- Department of Land and Water Conservation: Site Investigations for Urban Salinity (DLWC, 2002);
- Environmental Procedure Management of Wastes on Transport for New South Wales Services Land (Roads & Maritime, 2014);
- Managing asbestos in or on soil (SafeWork NSW, 2014);
- National Acid Sulfate Soils Guidance: National acid sulfate soils identification and laboratory methods manual (Water Quality Australia, 2018);
- National Acid Sulfate Soils Guidance: National acid sulfate soils sampling and identification methods manual (Water Quality Australia, 2018);
- NSW Department of Infrastructure, Planning and Natural Resources (DIPNR) 'Site Investigations for Urban Salinity 2002' (DIPNR, 2002);
- NSW Department of Infrastructure, Planning and Natural Resources (DIPNR): Western Sydney Regional Organisation of Councils Ltd (WSROC) 'Western Sydney Salinity Code of Practice, 2003' (WSROC, 2003);
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (as revised 2013) (NEPM, 2013);
- Other guidelines made or approved under section 105 of the Contaminated Land Management Act 1997
- PFAS - National Environmental Management Plan Version 2.0 (HEPA, January 2020);
- Roads and Maritime Guideline for the Management of Contamination (September 2013);
- Roads & Maritime Services Environmental Incident Classification and Reporting Procedure (2017);
- Soil and Landscape Issues in Environmental Impact Assessment (Gray, 2000);
- State Environmental Planning Policy (resilience and hazards) 2021;
- TfNSW draft Asbestos in Soils Management Procedure (2020);
- TfNSW Environmental Incident Procedure (EMF-I3-PC-0001) (2021);
- The NSW EPA (2017) Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (3rd Edition) (updated from NSW EPA 2006 version);
- The NSW EPA (2020) Consultants Reporting on Contaminated Land;
- The NSW EPA (2017) Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997;
- The NSW EPA (2022) Sampling Design Part I – Application;
- The NSW Government: Managing asbestos in or on soil 2014;
- Urban and regional salinity guidance given in the Local Government Salinity Initiative booklets, which includes Site Investigations for Urban Salinity (DLWC, 2002);
- How to manage and control asbestos in the workplace – Code of Practice (Safe Work Australia, July 2020);
- How to safely remove asbestos – Code of Practice (Safe Work Australia, July 2020);
- National Environment Protection (Assessment of Site Contamination) Measure (1999) Amendment 2013 (NEPM 2013); and
- WA Department of Health Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia 2009 (DOH, 2009).

4.2 Ministers Conditions of Approval

This contamination assessment has been prepared to satisfy the NSW M7 CoA (SSI 663-Mod-6) and Revised Environmental Management Measures (REMMS).

NSW M7 CoA D67

“Detailed Site Investigations to confirm moderate and high risk contaminated sites identified in Preliminary Site Investigation in Condition 1A of Schedule 1 must be prepared, or reviewed and approved by a Contaminated Land Consultant certified under either the Environment Institute of Australia or 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 Detailed Site Investigations must be undertaken before ground disturbance in areas identified in the documents under Condition 1A of Schedule 1 as moderate to high-risk contamination”.

NSW M7 CoA D69

“A Detailed Site Investigation Report must be prepared and submitted to the Planning Secretary for information following the completion of Detailed Site Investigations required by Condition D67 and:

(a) be prepared (or reviewed and approved) by a Contaminated Land Consultant certified under either the Environment Institute of Australia or 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 relevant guidelines made or approved by the EPA under section 105 of the Contaminated Land Management Act 1997 (NSW); and

(c) be reviewed by a NSW EPA-accredited Site Auditor (if a Detailed Site Investigation identifies moderate or high-risk contamination). The Site Auditor must issue interim audit advice stating whether the Detailed Site Investigations appropriately categorises risk, the appropriateness of the Report and any proposed management measures. The Detailed Site Investigation Report and interim audit advice must be submitted to the Planning Secretary for information.

Nothing in this condition prevents the Proponent from preparing individual Site Contamination Reports for separate sites”.

M7 REMMs C2

“A Sampling, Analysis and Quality Plan will be prepared ahead of detailed site investigations, focusing on potential source areas of potential contamination where the likelihood risk of contamination is moderate to high, and additional areas to give further understanding of potential contamination impacts.

The results from the site investigations will be assessed against criteria contained within the National Environment Protection (Assessment of Site Contamination) Measure (2013) and other applicable NSW statutory guidelines to assess whether remediation is required or other management measures during construction”.

M7 REMMs C3

“Remediation will be undertaken where assessed as required based on the outcome of DSIs. Works will be performed in accordance with the hierarchy of preferred strategies in the Guidelines for the NSW Site A Remediation will be undertaken where assessed as required based on the outcome of DSIs. Works will be performed in accordance with the hierarchy of preferred strategies in the Guidelines for the NSW Site Auditor Scheme (NSW EPA, 2017c) and CRC CARE Pty Ltd (CRC, CARE, 2020) National Remediation Framework. Where practical, remediation works will be integrated with excavation and development works performed during construction and address requirements of SEPP 55 Auditor Scheme (NSW EPA, 2017c) and CRC CARE Pty Ltd (CRC, CARE, 2020) National Remediation Framework. Where practical, remediation works will be integrated with excavation and development works performed during construction and address requirements of SEPP 55”.

M7 REMMs C4

“Contamination within the Westlink M7 lease area will be managed in accordance with the existing or updated Operational Environmental Management Plan (OEMP).

Pre-construction contamination condition surveys will be undertaken on all sites intended to be used as construction ancillary facilities. Post-construction contamination condition surveys will be undertaken on all ancillary facilities and any contamination caused by the use of the site as a construction ancillary facility remediated to a standard suitable for the identified land use. Remediation will be undertaken by the construction contractor prior to operation of the modification”.

M7 REMMs C5

“Prior to ground disturbance in areas of potential inland acid sulfate soil occurrence, testing will be carried out to determine the actual presence of acid sulfate soils. This measure is especially applicable to areas on waterbodies where disturbance of sediments and surrounding soil is to occur. If acid sulfate soils are encountered, they will be managed in accordance with the Acid Sulfate Soil Manual (Acid Sulfate Soil Management Advisory Committee, 1998) and Guidelines for the Management of Acid Sulfate Materials: Acid Sulfate Soils, Acid Sulfate Rock and Monosulfidic Black Ooze (NSW Roads and Traffic Authority 2005b)”.

M7 REMMs C6

“Prior to ground disturbance in high probability salinity areas, testing will be carried out to determine the presence of saline soils. If salinity is encountered, excavated soils will not be reused, and will be managed in accordance with Book 4 Dryland Salinity: Productive Use of Saline Land and Water (NSW DECC, 2008c). Erosion controls will be implemented in accordance with the Managing Urban Stormwater: Soils and Construction Volume 1 (DPIE, 2004)”.

4.3 TfNSW Requirements

This DSI has been developed in accordance with Transport for NSW (TfNSW) Specification D&C G36 Environmental Protection.

Clause 4.2

“Engage 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) to carry out a Stage 2 Site Contamination Assessment in accordance with the Planning Approval, the findings and recommendations of the Stage 1 Site Contamination Assessment carried out as part of the Environmental Assessment Documentation and detailed design contamination investigation reports and in accordance with the Contaminated Land Management Act Guidelines.”

The Stage 2 Site Contamination Assessment must be completed 7 days prior to works that would result in the disturbance of potentially contaminated or contaminated soils, materials, groundwater or sediments and submitted to TfNSW and the Principal.

The Stage 2 Site Contamination Assessment Report must provide details on:

- (a) primary sources of contamination, for example potentially contaminating activities, infrastructure (such as underground storage tanks, fuel line, sumps or sewer lines) or site practices;*
- (b) contaminant dispersal in air, hazardous ground gases, surface water, groundwater, soil vapour, separate phase contaminants, sediments, infrastructure (e.g. concrete), biota, soil and dust;*
- (c) contaminant characterisation and behaviour (volatility, leachability, speciation, degradation products and physical and chemical conditions on-site which may affect how contaminants behave);*
- (d) potential effects of contaminants on human health, including the health of occupants of built structures (for example arising from risks to service lines from hydrocarbons in groundwater, or risks to concrete from acid sulphate soils) and the environment;*
- (e) potential and actual contaminant migration routes including potential preferential pathways;*

- (f) the adequacy and completeness of all information available for use in the assessment of risk and for making decisions on management requirements, including an assessment of uncertainty;
- (g) the review and update of the conceptual site model from the preliminary and detailed site investigations;
- (h) nature and extent of any existing remediation (such as impervious surface cappings); and/or
- (i) whether the land is suitable (for the intended final land use) or can be made suitable through remediation”.

Annexure B (B1) - Contaminated Materials – If Encountered

Information documents provided at tender do not suggest the presence of contaminants on the site. Where encountered, the provisions under this clause would be enacted.

Notwithstanding anything to the contrary, you are to determine the nature and extent of all contaminated materials (including asbestos) and their associated treatments.

Part of the Site may contain contaminated materials (refer to Clause 4.2). Your Occupational Hygienist or suitably qualified Geotechnical Design Representative (refer to TfNSW D&C R44 Clause 1.8) must undertake inspections and any required tests of all suspected contaminated materials and assess the nature and extent of the contamination and provide suitable directions for the management/ treatment of all suspected contaminated materials”.

Annexure B (B2) - Topsoil

Your Geotechnical Design Representative (refer to TfNSW D&C R44 Clause 1.8) and Occupational Hygienist must undertake any required investigations/ inspections of all areas where you propose to remove topsoil. Invite the Principal to witness all such investigations/ inspections”.

5. SCOPE OF WORKS

To fulfil the objectives described in **Section 2**, the following work scope was implemented as part of this DSI:

- Review of the existing and historical environmental reports for the M7 and subject site area;
- Review of site history and historical aerial photographs of the site area;
- Review of environmental data source report (Enviro-Screen Reports - Land Insight and Resources (LIR), ref-LI-3924) and available online environmental data;
- Advancement of one borehole in each bridge batters (northbound and southbound) to a maximum depth of 1.0 m below ground level (mbgl);
- Advancement of four boreholes across the ancillary area to a maximum depth of 1.0 m below ground level (mbgl);
- Accompaniment of the geotechnical assessment during advancement of two boreholes using drill rig to a maximum depth up to the surface of the underlying bedrock;
- Collection of soil samples at depths as deemed appropriate by the field scientist;
- Submission of all samples to a National Association of Testing Authorities (NATA)-accredited laboratory in chilled conditions under standard chain of custody (CoC) documentation for the analysis required;
- Completion of a Tier I Qualitative review of the soil analytical results against the adopted human health and ecological criteria for the site, in accordance with NEPM 2013 and the HEPA PFAS National Environmental Management Plan V2 2020 (NEMP 2020);
- Development of an updated Conceptual Site Model (CSM) for the site area to address and rectify data gaps that require additional environmental information; and
- Preparation of this DSI report presenting the findings of the investigation in accordance with relevant guidelines for contaminated lands assessment and in accordance with M7 NSW CoA D67 detailing practices, contaminant dispersal, contaminant characterisation and behaviour, potential effects of contaminants on human health, including the health of occupants of built structures, potential and actual contaminant migration routes, including potential preferential pathways, the adequacy and completeness of all information available for use in the assessment of risk and for making decisions on management requirements, the review and update of the conceptual site model from the preliminary and detailed site investigations; nature and extent of any existing remediation and/or whether the land is suitable (for the intended final land use) or can be made suitable through remediation.

6. PREVIOUS INVESTIGATIONS

The following previous environmental investigation reports were reviewed in detail as part of this assessment.

6.1 TfNSW Westlink M7 Widening Modification Report (AECOM 2022) –Chapter 7.1.1a and 7.1.1b (App L1, L2 and L3) Contamination Impact Assessment

The CIA was undertaken to identify the potential for contamination to be present within areas to be impacted by the construction and operation of the M7 widening project. The study area for the assessment comprised a 100 m buffer of the construction footprint and the ancillary compounds located outside the Westlink M7 lease boundary.

The study was prepared to assess the potential contamination impacts of construction and operation of the proposed modification on the identified human and ecological receptors, as well as to identify potential acid sulfate soil and soil salinity impacts; assess the impacts on soil and land resources (particularly soil erosion and sediment transport), and to identify appropriate mitigation and management measures to address the impacts identified.

Potential existing areas of contamination were identified within the study area that could potentially have an adverse impact on human or ecological health if disturbed during construction of the M7 Widening or during operation of the M7 Motorway. The sources of contamination include the demolition of former buildings that comprised hazardous building materials (lead-based paint and asbestos-containing materials [ACM]), former market gardens, illegal waste dumping, past industrial land uses, service stations and landfills, and use of the existing Westlink M7.

The study provided a ‘likelihood risk of contamination assessment’ for each potentially contaminating activity identified within or proximal to the study boundary, ranging from low to moderate to high risk.

AECOM concluded that the area that encompasses the Site poses a moderate likelihood for risk of contamination due to the historical former building structures within the footprint, suggesting the potential for contamination of lead and PCBs from hazardous building materials.

6.2 EDP Detailed Site Investigation M7 Widening - Zone B – Sydney NSW (EDP, 2024)

EDP was engaged by John Holland to conduct the DSI of the M7 Widening project; the contamination assessment was divided into four separate construction areas, labelled Zones A to D. The Site is situated within construction zone B, the EDP report which captures the investigation work undertaken within this zone is ‘Detailed Site Investigation M7 Widening – Zone B – Sydney NSW’, report S-05667.DSI.M7_Zone B- Final, dated 8 February 2024 (EDP 2024).

The primary objective of the DSI was to characterise the extent of contamination within the site to determine whether concentrations of contaminants would preclude the assessed soils for use/re-use within the M7-M12 Integration project and determine as to whether the land is suitable (for the intended final land use) or could be made suitable through remediation.

This intrusive assessment involved the advancement of 36 boreholes across Zone B, and soil sampling was undertaken across the investigation area to a maximum depth of 1.5 mbgl. A Tier I Qualitative review of the dataset was undertaken against the criteria for the protection of human health and the environment specified within the site specific SAQP, referencing and in accordance with the NEPM 2013, the HEPA PFAS National Environmental Management Plan V2 2020 (NEMP 2020), and other applicable guidelines.

Chemical analytical results presented no exceedances of the adopted health investigation levels (HILs) nor the health screening levels (HSLs) for continued commercial and industrial land use.

Based on the findings of the report, areas previously identified as moderate and/or high risk in CIA (AECOM 2022) conducted for the site under Condition 1A of Schedule 1, soils within the investigation extent of the Zone B

median strip were considered low risk and acceptable for re-use during the construction of the M7M12 Integration project and suitable for the final intended land use.

6.3 EDP Detailed Site Investigation M7 Widening - Zone C – Sydney NSW (EDP 2024b)

EDP was engaged by John Holland to conduct a DSI of the M7 Widening project, the DSI has been divided into four separate construction areas, labelled Zones A to D. The Site is situated within construction Zone C, the EDP report which captures the investigation work undertaken is entitled 'Detailed Site Investigation M7 Widening – Zone C – Sydney NSW', report S-05667.DSI.M7_Zone C_Final, dated 25 January 2024 (EDP 2024a).

The primary objective of the DSI was to characterise the extent of contamination within the site to determine whether concentrations of contaminants would preclude the assessed soils for re-use within the M7M12 Integration project and determine as to whether the land is suitable (for the intended final land use) or could be made suitable through remediation.

This intrusive assessment involved the advancement of 67 boreholes and soil sampling across the investigation area to a maximum depth of 1.5 mbgl. A Tier 1 Qualitative review of the dataset was undertaken against the criteria for the protection of human health and the environment specified within the site specific SAQP, referencing and in accordance with the NEPM 2013, the HEPA PFAS National Environmental Management Plan V2 2020 (NEMP 2020), and other applicable guidelines.

The review of the chemical analytical results indicated no exceedances of the adopted health investigation levels (HILs) nor the health screening levels (HSLs) for continued commercial and industrial land use.

Based on the findings of the report, areas previously identified as moderate and/or high risk in the CIA (AECOM 2022) conducted for the site under Condition 1A of Schedule 1, soils within the investigation extent of the Zone C median strip were considered low risk and acceptable for re-use during the construction of the M7M12 Integration project and suitable for the final intended land use.

7. SITE INFORMATION

7.1 Site Identification Summary

Site identification details are summarised in **Table 1**, and the location of the site is shown in **Figure 1** and **Figure 2**, provided in **Appendix A**.

Table 1- Site Identification

Site Identification	
Site Address:	Situated under the M7 Motorway bridge, adjacent to Redmayne Road, Horsley Park NSW 2175
Local Government Area:	Fairfield City Council
Lot and DP number:	Part of Lot 1 of Deposited Plan (DP) 541719 and Lot 11 and 15 of DP 1021711
Current Zoning:	SP2 Infrastructure Classified Road
Current Site Description:	The Site comprises the existing M7 Motorway bridges structures, northbound and southbound embankments, an area localised on west of M7 Motorway. Two batters were present on either side of the bridge structure, in the northbound and southbound areas. Each batter measures approximately 15 m in width and 20 m in height. They were noted to be a grassed area between two bridge structures, characterised by a steep decline. The batters were noted to be a grass covered between two bridge structures, with rock guarding at the base. The batter connects to the M7 Westlink median strip which is overlain by a grass surface and trees.

Site Identification	
	General litter, likely discarded from traffic, road and footpath users, including glass, plastic, cardboard, metal cans, cigarette butts and polystyrene was observed on the ground surface in areas adjacent to all roadways within the site.
Former Land Use:	The proposed construction footprint was historically largely used for agricultural and rural/residential purposes since the 1940s with increased rural residential density observed in suburban pockets until 1998. Construction of the M7 Motorway began in 2004 and was completed in 2005. The most notable land changes as part of these works included clearing and increased commercial/industrial developments within surrounding areas following the development of the roadway.
Current and Surrounding Land Use:	An overview of the surrounding land use is as follows: Fairfield LGA – Centred around Fairfield city centre and Bordered by the Warragamba to Prospect Reservoir water pipeline to the north and Elizabeth Drive to the south. Along the eastern length of the motorway is the Western Sydney Parklands. The site sits within the suburb of Horsley Park, NSW, and is bound to the: • North by undeveloped and rural land • West by undeveloped land, followed by an electrical substation and Wallgrove Road; • East by a cycleway followed by Blacktown Junior Mini Bike Club and agricultural land, Eastern Creek and Redmayne Road; and • South by undeveloped and rural land, and industrial properties.

7.2 Historical Aerial Photograph Review

Based on detailed information provided in previous investigation, and review of historical imagery, it is understood that the subject area largely consisted of vacant land prior to development of Redmayne Road in the 1940's. In the surrounding areas agricultural land use is observed up until the development of the M4 motorway, when land clearing and earthworks are observed. Construction for the M7 Motorway was first observed in 2004 and was completed in 2005.

The following historical descriptions of the site in **Table 2** were based on the aerial images gathered online. Historical aerial images are provided in **Appendix B**.

Table 2 - Historical Land Use

Year	Description of Site	Surrounding Development
1947	The site consists of mainly vacant land, with an unsealed roadway in the current Redmayne Road alignment. Potential horticultural areas are observed within the northern end of site. A small dam is located immediately south-west of the site and potential earthworks are observed in the south-eastern portion of the site.	Vacant land with sporadic trees, horticultural areas (market garden) and associated sheds and unsealed tracks.
1965	A prominent track / road is present in the current Redmayne Road alignment. The remainder of the site is vacant with sporadic trees. The small dam in the south-west in the previous image is no longer present however a faint creek alignment is observed. A new driveway from the main road leading to a dwelling north of the is present in the north-eastern end of site.	Vegetation clearing occurred in all directions surrounding the site, with more presumed horticultural areas now observed. One dam is present north-west and one dam is present east of the site. A few new dwellings are observed north and south of the site. Wallgrove Road observed in its current alignment.
1978	No major changes to the site except for increased vegetation growth.	Additional isolated residential dwellings observed west of the site. Increased development presumed to be associated with agricultural activities observed, notably additional building north-east of the site. Electrical substation observed east of the site.

Year	Description of Site	Surrounding Development
1986	No major changes to the site. Now coloured image, showing the road has been paved.	Increased isolated residential dwellings west of Wallgrove Road. No other major changes to surrounding areas.
1998	No major changes to the site.	Continued agricultural activity south and north of the south, noting horticultural (market garden) areas expanding. Dwelling south-west of the site has been demolished and rebuilt. Increased isolated residential dwellings west of Wallgrove Road.
2004	Earthworks including clearing and / or filling associated with the development of the Westlink M7 motorway are observed across the entirety of the site. The water way was canalised running parallel to the Redmayne Road.	Earthworks observed to the north and south of the site for the construction of the M7 Motorway.
2005	M7 Motorway and bridge within site constructed and Redmayne Road has been upgraded. Earthworks continuing.	Earthworks associated with the M7 are observed north and south of the site.
2013	M7 Motorway complete with vegetation observed in the median beneath the bridge.	M7 Motorway construction complete. Dwellings east of the site no longer present. Bike track observed north-east of the site.
2022	No major changes except for increased vegetation growth observed.	No major changes to surrounding areas.

Associated potential contamination issues identified during the historical aerial photography review include the following:

- Diffuse pesticide and herbicide use;
- Isolated waste disposal;
- Chemical/fuel use and storage;
- Degradation and demolition of structures containing hazardous building materials;
- Historical land use;
- Neighbouring electrical substation; and
- Imported fill from unknown and unverified sources.

7.3 Environmental Settings

Site information was gathered from previous reports, available online environmental data and the LIR (LIR, 2023) report in **Appendix C**. Environmental setting details are summarised in **Table 3**.

Table 3: Environmental Settings

Environmental Settings	Description
Topography:	A review of the NSW Government National Map online database (http://www.nationalmap.gov.au/) indicated that the site was located at an elevation of approximately 74-78 m Australian Height Datum (AHD). At the time of the assessment, the site appeared to be relatively level.
Surface water and Groundwater:	Based on LIR (2023) project geological conditions, project groundwater investigations and registered groundwater works, two main groundwater system types exist in the study area as follows: • Unconfined to semi-confined alluvial groundwater systems associated with the alluvial landscape; and • Semi-confined groundwater systems are within the bedrock (Wianamatta Group Shale). The bedrock groundwater systems are semi-confined dual porosity systems (granular and fracture flows). The upper major hydrostratigraphic unit comprises the Wianamatta Shale, which overlies a lower major hydrostratigraphic unit consisting of the Hawkesbury Sandstone. The Wianamatta Group shales are characterised by saline groundwater, which is not considered a viable groundwater source. Two aquifer systems, shallow and deep, form part of the Wianamatta Shales—the upper ‘regolith’ aquifer system. A review of LIR indicated no groundwater wells within 500 m of the site registered for monitoring purposes.
Regional Geology:	A review of the NSW Seamless Geology version 2.2 (May 2022) shows the majority of the construction footprint within Triassic-aged Bringelly Shale bedrock which forms part of the Wianamatta Group. The bedrock is described as shale and carbonaceous claystone. Other areas of the project include Quaternary aged and Recent alluvial sediments. The alluvium deposits are reported as being relatively thin, extending to between about 2.5 metres below ground level (mbgl) to 7.0 mbgl.
Sensitive Receptors:	The identified sensitive receptor within a buffer of 200 m of the study area is: • Eastern Creek; • Water courses, lakes, dams and waterholes; and • Shared pathway-cycleway.
Acid Sulfate Soils:	The Atlas of Australian Acid Sulfate Soils (ASRIS) database presented LIR (2023) indicated an extremely low probability of acid sulfate soils occurring beneath the site. Probability of occurrence within upper 1 m in wet and riparian areas.
Salinity:	Based upon available mapping, there is a moderate salinity hazard present onsite associated with hydrogeological landscapes and Australian drylands ecosystems are present onsite. Hawkesbury Sandstone groundwater salinity decreases to 1,000 mg/L to 3,000 mg/L, where greater than 1200 mg/L is considered unpalatable to humans, and greater than 2,000 mg/L is considered unpalatable for most livestock (SAEPA, 2019). Salinity potential is defined as being known moderate defined as where Wianamatta Group Shales or tertiary alluvial terraces are present.

7.4 Public Records and Potentially Contaminated Areas

Public Records and Potentially Contaminated Areas are summarised in **Table 4:**

Table 4: Public Records and Potentially Contaminated Areas

Resource	Description
Per- and Polyfluoroalkyl Substances (PFAS):	A review of the NSW EPA Per-and Polyfluoroalkyl Substances (PFAS) Investigation Program as part of the LIR did not identify the site or any location within a 2,000 m radius of the site.
NSW EPA Contaminated Land Public Records Register:	The NSW EPA Contaminated Land Record of Notices indicated no current or former notices under Section 58 of the CLM Act 1997 in a 1,000 m buffer of the site.
NSW EPA List of Notified Sites:	The NSW EPA record of licenced sites reported identified with no current or historical licenced operations under the POEO Act within or adjoining the site

8. PRELIMINARY CONCEPTUAL SITE MODEL

Table 5: Preliminary Conceptual Site Model

Location	Activity	Contaminants of Concern	Potential Exposure Pathways	Potential Human and Environmental Receptors	Assessment of Risk
Within the construction footprint, various locations and adjoining study area	Demolition or removal of former building structures Areas of disturbed terrain and potential illegal dumping Unknown fill in bridge batters	Heavy metals, TRH, PAH, BTEX, PCBs, OCP/OPP, and Asbestos (non-friable and friable)	- Downward migration and leaching of contaminants via infiltration of rainwater through the underlying geology - Lateral migration via groundwater to surface water and off-site - Overland flow of surface water to off-site soils and surface water - Absorption or adsorption to fauna and vegetation through contact and diffusion in soil - Dispersion of airborne particulates due to wind - Inhalation, ingestion, dermal contact	<u>Human receptors:</u> - Current site maintenance workers - Construction and maintenance workers, site users - Current and future site users on neighbouring properties <u>Environmental Receptors:</u> - Transient fauna or macroinvertebrates - Vegetation - Groundwater - Surface waters such as Creeks and tributaries within the Eastern Creek Catchment	<u>Health: Moderate</u> – Source-Pathway-Receptor (SPR) linkages potentially complete <u>Environment: Moderate</u> – SPR linkage potentially complete for surface water and groundwater. Low risk to ecology and sensitive ecology not envisaged in median
Excavation and Stockpiling of Actual and/or Potential Acid Sulfate Soils, or soils with high salinity hazard	Stockpiling during M7 Westlink construction	- Actual Acid Sulfate and Potential Acid Sulfate (AASS/PASS) - Saline and sodic soils	- Migration of acidic or saline leachate/runoff to surface water or infiltration to groundwater - Rill and gully erosion, salinisation and scarring of the landscape - Dispersion of airborne particulates due to wind - Direct contact with impacted soils causing skin irritation	<u>Human Receptors:</u> - Current site maintenance workers and visitors - Future constructions and maintenance workers, site users and visitors <u>Environmental Receptors:</u> - Surface dependant floral and faunal ecosystems including transient and macroinvertebrate species - Groundwater - Surface waters such as Creeks and tributaries within the Eastern Creek Catchments	<u>Health: Low</u> – Unlikely impact of AASS/PASS or saline soils to human health <u>Environment: Moderate</u> – SPR linkages potentially complete for surface water, groundwater and ecology

Location	Activity	Contaminants of Concern	Potential Exposure Pathways	Potential Human and Environmental Receptors	Assessment of Risk
Installation of piles and working platforms in ASS/PASS or soils with high salinity hazard	Construction of piles and working platforms (temporary and permanent structures)	- ASS/PASS - Saline and sodic soils	- Infiltration of acidic or saline leachate into groundwater - Wicking of saline water into bridge structure - Acid corrosion of bridge structure	<u>Human Receptors:</u> - Site maintenance workers or visitors coming into contact with impacted bridge structures - Weakening of bridge structures affecting bridge users <u>Environmental Receptors:</u> - Groundwater	<u>Health: Low</u> – The area will not be readily accessible on foot by the general public, with site maintenance workers to follow site WHS plans and documentation <u>Environment: Low</u> – risk to be managed in design of piles/working platforms and installation method

List of Acronyms: Total Recoverable Hydrocarbons (TRH), Polycyclic Aromatic Hydrocarbons (PAH), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), Polychlorinated Biphenyls (PCBs), Organochlorine Pesticides / Organophosphorus Pesticides (OCP/OPP)

9. DATA QUALITY OBJECTIVES

Systematic planning and verification are critical to successful implementation of an environmental assessment to ensure that the data is reliable and representative. A process for establishing data quality objectives (DQOs) for an investigation has been defined by the United States Environmental Protection Agency (US EPA). That process has been adopted by Australian Standard AS4482.1-2005 and referenced in NEPM 2013 and NSW EPA 2022 Sampling Design guidelines. DQOs ensure that:

- The study objectives are set;
- Appropriate types of data are collected (based on potential sources of contamination and CoPC); and
- The tolerance levels are set for potential decision-making errors.

The DQO process is a seven-step iterative planning approach used to plan for environmental data collection activities. It provides a systematic approach for defining the criteria that a data collection design should satisfy, including when, where and how to collect samples or measurements, determination of tolerable decision error rates and the number of samples or measurements that should be collected. The seven-step process for this investigation is discussed and summarised in **Table 6**.

Table 6: Data Quality Objectives

Process	DQO
Step 1: State the Problem	John Holland are undertaking works on the subject site as part of the wider M7M12 widening project. There is currently limited site-specific information relating to the contamination status within the subject site and therefore the contamination risk to the proposed development on the site (both during the development and during the operational phase) is not suitably defined.
Step 2: Identify the Decisions	The decisions to be made based on the results of the investigation were as follows: • Are CoPC as defined in the Preliminary CSM (see Section 8) present within soil, and if so, do they present an unacceptable risk to human health and the environment based on the proposed commercial/industrial land use? • If contamination is present, is further investigation required or does the site require remediation and/or a management?
Step 3: Identify Inputs in the Decision	The inputs required to make the above decisions were as follows: • Desktop information (including mapping, databases and historical information sources); • Background information from previous investigations on and adjacent to the site; • Derivation of data quality objectives based upon project objectives; • Selection of appropriate Tier 1 soil assessment criteria; • Visual observations; and • Field and laboratory analytical results.
Step 4: Define Boundaries of the Study	The geographical limits appropriate for the data collection and decision making in this investigation comprised the soils to a maximum depth of approximately 3.0 mbgl, as shown on Figure 3 of Appendix A . The temporal boundaries of the investigation works are between the dates of fieldwork (i.e. between 16 th January 2024 and 2 nd February 2024
Step 5: Develop a Decision Rule	The adopted site assessment criteria for the CoPC within the investigation area assessed during this investigation are outlined in Section 12 of the report and presented in the tables provided in Appendix G . Based on the objectives of the DSI and with reference to the potential future use of the site as commercial/industrial, the criteria for commercial/industrial land use were deemed appropriate for the assessment. <u>Human-Health Based Criteria</u> • Where the data sets are not sufficiently populated to allow calculation of the 95% UCLmean, or do not follow a discernible distribution, then the individual results must be less than the adopted criteria. If all the individual results are below the adopted criteria, then no additional

Process	DQO
	assessment and/or management is required. Where individual results exceed that adopted criteria, then further assessment and/or management is required. • In accordance with the NEPM 2013, where 95% UCLmean of the average concentration for each soil analyte can be calculated, then the 95% UCLmean must be below the adopted criteria; no single analyte concentration exceeds 250% of the adopted criteria; the standard deviation of the results must be less than 50% of the adopted criteria; and the normal distribution will only be used where the coefficient of variance is not greater than 1.2. • Hot spots of contamination will be defined where individual contaminant concentrations exceed 250% of the adopted site criteria. Hot spots will be managed separately to the remaining analytical dataset. • Allowances to these decision rules apply where alternative 95% UCL methods that are not based on normal or log-normal distributions are adopted. Where 95% UCLmean results exceed the aforementioned criteria, then further assessment and/or management is required. • Asbestos contamination will be assessed based on exceedance of individual results, as statistical assessment is not applicable. <u>Ecological-Based Criteria</u> The same approach as adopted above for the assessment against human health-based criteria will be applied to the assessment against ecological criteria.
Step 6: Specify Limits on Decision Errors	The acceptable limits on decision errors applied during the assessment on the site and the manner of addressing possible decision errors were developed based on the DQIs of: • Accuracy: a measure of the bias in the analytical results and can often be attributed to field contamination, insufficient preservation or sample preparation, or inappropriate analytical techniques. Accuracy of the analytical data assessed by consideration of laboratory control samples and laboratory spikes; • Comparability: a qualitative parameter expressing the confidence with which one data set can be compared with another. This should be achieved through consistent sampling and, analytical testing and reporting techniques. • Completeness: a measure of the amount of useable data (expressed as %) from a data collection activity. Sufficient data is required to enable an assessment of the Decision Rules. • Representativeness: the confidence (expressed qualitatively) that data are representative of each media present on the site. Data representativeness should be achieved by the collection of samples at an appropriate pattern and density as well as consistent and repeatable sampling techniques and procedures. • Precision: a quantitative measure of the variability (or reproducibility) of data. The RPD must be adopted to assess the precision of data between duplicate sample pairs. An acceptance criterion of $\pm 50\%$ for organic field duplicates should be adopted. However, it should be noted that exceedances of this criteria are common for heterogeneous soil or fill or for low analyte concentrations. <u>Acceptance Limits for Decision Errors</u> The acceptable limits for the assessment works will be follows: • Individual or 95% UCLmean concentrations below the adopted criteria; • 95% of the data satisfy the DQIs determined for completeness, representativeness, precision and accuracy of both field and laboratory data. Therefore, the limit on the decision error will be 5% that a conclusive statement may be incorrect; and • A comprehensive QA/QC program undertaken including representative sampling and sampling at an appropriate density for the purpose of the investigation.
Step 7: Optimise the Design	A systematic based sampling pattern was designed based on the assessment of the findings of the desktop investigation. A suite of general CoPC was adopted for the assessment to provide characterisation of the status of soil/ vapour contamination based on the assessment of the potential source of contamination associated with historic uncontrolled filling, poor demolition of structures and degradation of building materials at the site, cross-contamination arising from stockpile storage at the site. and close proximity to a former landfill with unknown material and EPA regulated sites.

9.1 Data Quality Indicators

The DQIs based on the DQOs for the assessment are presented in **Table 7**.

Table 7: Data Quality Objectives

DQO	Requirement	DQI
Precision		
Standard operating procedures appropriate and complied with	The sampling methods comply with industry standard and guidelines	Meet requirement
Field duplicates	1 per 10 primary samples for chemical contaminants (excluding asbestos)	RPDs <30% (raised for low concentrations)
Laboratory duplicates	1 per batch per analyte	RPDs < 50 %
Accuracy		
Trip blanks	1 per batch of samples	Results < PQL
Trip spikes	1 per batch of samples	Recoveries 70 to 130%
Rinsate blanks	1 per day of sampling	Results < PQL
Field blanks	1 per batch of samples	Results < PQL
Laboratory matrix spikes	1 per batch per volatile/semi-volatile analyte	Recoveries 70% to 130%
Laboratory surrogate spikes	1 per volatile/semi-volatile analyte sample (as appropriate)	Recoveries 70% to 130%
Laboratory control samples	At least 1 per batch per analyte tested	Result < PQL
Representativeness		
Sampling methodology – preservation	Appropriate for the sample type and analysis	Meet requirement
Samples extracted and analysed within holding times	Specific to each analyte	Meet requirement
Field equipment calibration	All field equipment calibrated, and calibration records provided	Meet requirement
Laboratory method blanks	At least 1 per batch per analyte tested	Result < PQL
Comparability		
Sampling approach	Consistent with each sample	Meet requirement
Analysis methodology	Consistent methodology for each sample	Meet requirement
Handling conditions and sampler	Consistent for each sample	Meet requirement
Field observations and analytical results	Field observations support analytical results	Meet requirement
Consistent laboratory reporting limit	Consistent for each sample	Meet requirement
Completeness		
Sampling staff	Consistent sampling staff used	Meet requirement
Laboratory accreditation	NATA accredited laboratories and methods used	Meet requirement
Accredited methods	NATA accredited methods used appropriate for each analyte	Meet requirement
NEPM 2013 laboratory methods	Laboratory methods consistent with the NEPM 2013	Meet requirement
CoC documentation	Appropriately completed	Meet requirement
Field sampling decontamination	Appropriately completed	Meet requirement

10. METHODOLOGY

10.1 Site Mobilisation and Sampling

The assessment was undertaken on the 16 and 29 of January 2024, as well as the 2 of February 2024. The methodology utilised for the assessment was as follows:

- Selection of sampling locations across the investigation area based on:
 - Systematic sampling pattern according to NSW EPA (2022) Sampling Design Part 1 – Application;
 - Visual inspection for indications of contamination during the site inspection, including but not limited to staining, odours, demolition waste and asbestos, limited due to grown vegetation in the area; and
 - Proposed locations marked by a surveyor. Locations cleared under John Holland permit to excavate and intrusive works.
- Sampling by mechanical hand auger:
 - On the 29 January and 2 February 2024, a total of six boreholes were advanced to a maximum depth of 1.0 meters below ground level (mbgl). The target depth for boreholes was 1.0 mbgl.
- Sampling by Drill Rig, accompanying the geotechnical assessment:
 - On 16 January 2024 two geotechnical bore holes (BH154 and BH155) were advanced within the central portion of the site to depths of 2.0 and 3.0 mbgl respectively concurrent with the geotechnical assessment. The geotechnical bores were purpose specific, targeting the surface of the underlying bed rock to provide geotechnical information for pile design.
- Collection of soil samples for chemical characterisation was undertaken at each sampling location as follows:
 - At the surface, typically 0-100 mm or 0-150 mm;
 - From both emplaced fill and natural material in depth up to 1 m;
 - Visual inspection of soil cuttings for indications of contamination, including but not limited to staining, odours, demolition waste, asbestos or the potential presence of acid sulfate soils (ASS);
 - Field screening of soil samples using a calibrated photo-ionisation detector (PID) for assessment of potential volatile contamination;
 - Soil samples were collected in pre-labelled sampling containers provided by the laboratory, ensuring sufficient samples were collected and were preserved appropriately for the required analysis. Samples are placed in glass jars with Teflon lined lids, zip lock bags and/or HDPE jars depending on the analyses proposed;
 - At each location, a 10 L volume of soil targeting the top 0.2 m, was screened in the field for asbestos using a 7 mm sieve or spread on a contrasting-coloured surface, in accordance with procedures stipulated in NEPM 2013. An additional 10 L volume from down the soil profile were sieved if a compositionally different and deeper fill body is identified;
 - Collection of suspected non-friable (bonded) ACM and/or friable/fibrous asbestos (FA) (>7 mm) if identified in the soil for gravimetric measurement and analysis in accordance with NEPM 2013 (Section 11.3.1 and Table 7 in Schedule B2);
 - Collection of one discrete sample for asbestos fines and friable asbestos (AF/FA) within each identified layer of fill material at each location for analysis if a credible friable risk is determined from site observations;
 - ASS sampling occurred at 0.5 m depth intervals within natural material. ASS field screening tests for pHf and pHfox were undertaken as soon as possible after collection, in accordance with the Water Quality Australia (2018) procedures; and
 - Field duplicates and triplicate samples were collected and labelled as to not identify their corresponding primary sample.

- Logging of soil conditions at each sample location in the field was undertaken in accordance with Australian Standard 4482.1 Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil (2005) (AS4482);
- At completion of boreholes, reinstatement of sampling locations with site won materials and nominal compaction;
- All soil samples for chemical analysis were stored in chilled conditions on ice prior to dispatch and during transportation to the nominated laboratory under EDP and industry standard Chain of Custody (CoC) procedures; and
- Analysis of soil samples for contaminants of potential concern (CoPC) at a NATA accredited laboratory.

Photographs taken during the assessment are also provided in **Appendix D**. The locations of the boreholes are shown on **Figure 3** provided in **Appendix A**. Soil conditions encountered at borehole are provided in the field logs provided in **Appendix E**.

10.1.1 Asbestos Field Screening

Representative 10 L volume soil samples were collected within the fill profile at each sample location. Due to the use of hand tools and associated limitations with the volume of soils excavated, the depth intervals of some of the samples for asbestos field screening was greater than the chemical soil sample intervals. The samples were collected in a known 10 L volume container, then either sieved through a 7 mm sieve in the field or spread on a contrasting-coloured surface for visual inspection of asbestos, in accordance with Schedule B2 (Section 11.3.1 and Table 7) of the NEPM 2013.

If ACM and/or FA was observed within the field, the material was collected and gravimetrically weighed to calculate the asbestos in soil concentration for individual samples as outlined in Schedule B1, Section 4.10 of the NEPM 2013. If identified, representative ACM and/or FA samples were collected and analysed for confirmatory asbestos identification at an external NATA accredited laboratory. Where asbestos was identified, a specific bulking factor of 1.8 kg/L soil density was adopted to assess the volume of soil in kilograms that was excavated based on a gravelly sandy clay soil type. Asbestos content was based on known asbestos percentage of original manufactured products.

The asbestos in soil concentration was calculated using the formula shown below:

$$\% \text{ Soil Asbestos} = \frac{\% \text{ Asbestos Content} \times \text{ACM/FA (kg)}}{\text{Soil Volume (L)} \times \text{Soil Density (kg/L)}}$$

10.1.2 Asbestos in Soil Sampling

A range of representative 500 mL and 50 g soil samples were collected across from the fill soils during the assessment in accordance with NEPM 2013 to provide an indication of the presence of asbestos, including AF within the soil. A total of 16 soil samples were scheduled for asbestos in soil analysis in accordance with NEPM 2013 and AS4964-2004.

10.1.3 Acid Sulfate Soils Field Screening

pH Field

As per the Water Quality Australia (2018), the pH_f of AASS tends to be ≤4, while the pH_f of PASS tends to be neutral. pH_f is useful as a preliminary screen to provide an indication of the likely presence and severity of AASS. It must be noted that pH_f is a qualitative method only and is not a substitute for laboratory analysis in the identification of ASS for assessment purposes.

- pH readings of pH ≤4, indicates that AASS is present with the sulfides having been oxidised in the past, resulting in acid soil (and soil pore water) conditions; and
- pH values >4 and <5.5 are acid and may be the result of some previous or limited oxidation of sulfides but is not confirmatory of AASS.

pH Field Oxidation

As outlined in the Water Quality Australia (2018), the measurement of the change in the pH_{fox} following oxidation can give a useful indication of the presence of sulfidic material and can give an early indication of the distribution of sulfide down a core/ profile or across the site.

The pH after oxidation test is not a substitute for analytical test results, but rather is useful as a preliminary screening tool. If the pH_{fox} value is at least one unit below field pH_f, it may indicate PASS. The greater the difference between the two measurements, the more indicative the value is of PASS. The lower the final pH_{fox} value is, the better the indication of a positive result.

- If the pH_{fox} is <3 and there was a strong reaction to the peroxide, there is a high level of certainty that PASS are present. The more the pH_{fox} drops below 3, the more positive the indication that sulfides are present;
- A pH_{fox} of 3-4 is less positive and laboratory analyses are needed to confirm if sulfides are present. Sands particularly may give confusing field test results and must be confirmed by laboratory analysis;
- For pH_{fox} of 4-5 the test is neither positive nor negative. Sulfides may be present either in small quantities and be poorly reactive under quick test field conditions. In some cases, the sample may contain shell/carbonate that neutralises some or all acid produced by oxidation. In other cases, the pH_{fox} value may be due to the production of organic acids and there may be no sulfides present. In these cases, analysis for sulfur using the CRS Suite is recommended; and
- For pH_{fox} >5 and little or no drop in pH from the field value, little net acid generating ability is indicated. However, the sulfur trail of the SCR methods should be used to check some samples to confirm the absence of oxidisable sulfides.

II. LABORATORY ANALYSIS

SGS Australia Pty Ltd was engaged as the primary laboratory for analysis. The laboratory is NATA accredited for the analysis undertaken. Primary samples were submitted for analysis of CoPC as outlined in **Table 8**. A summary of analytical results is tabulated and presented in **Appendix G**, laboratory certificates presented in **Appendix F**.

Table 8 Primary Sample Analytical Schedule and Rationale

Medium	No. Analysed	CoPC	Frequency	Rationale
Soils	21	Heavy metals, TRH, BTEXN, PAHs	Approximately 2-4 per borehole	To characterise the contamination status of the soils across the site.
Soils	15	OCP, OPP, PCB	Targeted Areas	To characterise the contamination status of the soils across targeted areas.
Soils	14	PFAS	Targeted areas	To characterise the contamination status of the soils across targeted areas.
Soils	15	Asbestos	Targeted Areas and fill soils	To provide an indication of the presence of asbestos within the fill soils, including AF.
Soil	21	Salinity	Targeted areas	To characterise the nature of the soils across targeted areas.

Medium	No. Analysed	CoPC	Frequency	Rationale
Soil	21	pH _i /pH _{FOX}	Targeted areas	To characterise the nature of the soils across targeted areas.

12. ADOPTED SOIL ASSESSMENT CRITERIA

12.1 Framework

To assess the significance and potential risk of contaminant concentrations in soil, reference was primarily made to NEPM 2013, specifically 'Schedule B1 Guideline on Investigation Levels for Soil and Groundwater' (Schedule B1) for assessment criteria, where available. Schedule B1 provides a framework for the use of investigation and screening levels based on human health and ecological risks. Reference was also made to the PFAS NEMP 2020 for human health and ecological screening levels regarding PFAS and TfNSW Specification D&C G36 regarding the presence and absence of asbestos-containing material. In the absence of relative criteria in NEPM 2013, reference was made to other nationally or state endorsed guidelines.

Based on the objectives of the DSI and with reference to the potential for future commercial/industrial use, the site criteria for commercial/industrial land use were deemed appropriate.

12.2 Soil Assessment Criteria

Soil health investigation levels (HILs), soil health screening levels (HSLs) ecological investigation levels (EILs) and ecological screening levels (ESLs) have been adopted from Schedule B1 of NEPM 2013 to assess the significance of human health and ecological risk associated with chemical contaminants in soil and the potential requirement for remediation and/or management:

- Soil HILs were used to assess human health risk via relevant exposure pathways of exposure for metals and organic substances. HILs are concentrations below which contaminants in soils are not considered to adversely affect human health and are based on differing land use scenarios. HIL-D for commercial/industrial land use were adopted.
- Soil HSLs for selected petroleum compounds and fractions are considered applicable to assessing human health risk via vapour intrusion and inhalation. HSL-D for commercial/industrial land use were adopted with both fine and coarse-grained soil type and depths of 0 m to 1 m selected based on the site's soil characteristics and proposed excavation.
- EILs for selected metals and organic substances were used for assessing risk to terrestrial ecosystems. EILs depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2.0 m of soil. Generic EILs for aged arsenic, fresh naphthalene and DDT were adopted. EILs were calculated for chromium (III), lead, copper, nickel, and zinc using the NEPM toolbox with the input of the pH and cation exchange capacity results presented in eSpade website. An average pH of 5.5 and an average CEC of 10 meq/100 were adopted for the calculation of EILs. EIL calculations can be found in **Appendix D**.
- ESLs for selected petroleum hydrocarbons were used for assessing risk to terrestrial ecosystems. Concentrations of contaminants above which further appropriate investigation and evaluation is generally required. ESLs, like EILs, depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2.0 m. ESLs for coarse- and fine-grained soils were adopted for an urban residential and public open space and commercial/industrial land use; and
- If exceedances of benzo(a)pyrene criteria were identified in comparison to the primary NEPM 2013, CRC Care, risk-based management, and remediation guidance for benzo(a)pyrene (CRC Care 2017) will be adopted as a comparison guideline. CRC Care is a high reliability guideline which derives its screening levels from a larger database with more species and test results. As such, derived values of benzo(a)pyrene in CRC Care (2017) can be considered as high reliability.
- According to the TfNSW draft Asbestos in Soils Management Procedure (TfNSW, 2020), the procedure for areas that are present or suspected to be contaminated with ACM during the DSI involves visual inspection of the soil profile. TfNSW (2020) determines that no bonded asbestos can be present, FA or AF not detected and all forms of asbestos not present.

The adopted assessment criteria for the CoPCs are presented in **Table 9**.

Table 9: Adopted Assessment Criteria

CoPC	Adopted Assessment Criteria
NEPM 2013 Human Health Investigation Levels:	
Arsenic	3,000 mg/kg
Cadmium	900 mg/kg
Chromium VI	3,600 mg/kg
Copper	240,000 mg/kg
Lead	1,500 mg/kg
Mercury	730 mg/kg
Nickel	6,000 mg/kg
Zinc	400,000 mg/kg
Total PAHs	4,000 mg/kg
Benzo(a)pyrene TEQ	40 mg/kg
PCBs	7 mg/kg
OCPs	50 to 3,600 mg/kg
Cyanides	2,500 mg/kg
TfNSW draft Asbestos in Soils Management Procedure	
Bonded ACM	Not present
Fibrous Asbestos (FA) and Asbestos Fines (AF)	Not detected
All forms of asbestos	Not present
NEPM 2013 Soil Health Screening Levels for Vapour Intrusion (more restrictive approach - Sand):	
Toluene	No limit
Ethylbenzene	No limit
Xylene	No limit
Naphthalene	No limit
Benzene	3 mg/kg
C6-C10	260 mg/kg (0 m < 1 m) to No Limit (4 m +)
>C10-C16	No Limit
NEPM 2013 Ecological Investigation Levels³:	
Arsenic	160 mg/kg
Chromium	670 mg/kg
Copper	210 mg/kg
Lead	1,800 mg/kg
Nickel	290 mg/kg
Zinc	500 mg/kg
Dichlorodiphenyltrichloroethane (DDT)	640 mg/kg
Naphthalene	370 mg/kg
Sulfate	2000 mg/kg
NEPM 2013 Ecological Screening Levels:	
TRH FI (C ₆ -C ₁₀) – course/fine soils	215 mg/kg
TRH FI (C ₁₀ -C ₁₆) – course/fine soils	170 mg/kg
TRH FI (C ₁₆ -C ₃₄) – course/fine soils	1,700 / 2,500 mg/kg
TRH FI (C ₃₄ -C ₄₀) – course/fine soils	3,300 / 6,600 mg/kg
Benzene – course/fine soils	75 / 95 mg/kg
Toluene – course/fine soils	135 / 135 mg/kg
Ethylbenzene – course/fine soils	165 / 185 mg/kg

CoPC	Adopted Assessment Criteria
Xylenes – course/fine soils	180 / 95 mg/kg
Benzo(a)pyrene – course/fine soils	0.7 / 0.7 mg/kg
PFAS NEMP 2020 Human Health Investigation Levels	
Sum of PFOS and PFHxS	20 mg/kg
PFOA	50 mg/kg
PFAS NEMP 2020 Ecological Guidelines Values	
Direct exposure PFOS	1 mg/kg
Indirect exposure PFOS	10 mg/kg
Direct exposure PFOA	0.01 mg/kg

1 NEPM 2013

2 Based on physical properties of the natural soils.

3 Adopted from NEPM 2013 pH-based added contaminant limit values without ambient background concentration to remain conservative.

12.3 Asbestos in Soil

Asbestos contamination in soil can occur in a range of forms, sizes and degrees of deterioration. For the purpose of the assessment, NEPM 2013 divides asbestos contamination into the following:

- Bonded ACM: non-friable asbestos materials bound in a matrix, in sound condition that cannot pass through a 7 mm sieve e.g., vinyl tiles, fibre cement fragments;
- Fibrous asbestos (FA): friable asbestos material such as weathered ACM and loose fibrous material (insulation products); and
- Asbestos fines (AF): free fibres of asbestos, small fibre bundles, and ACM fragments that can pass through a 7 mm sieve.

According to the TfNSW draft Asbestos in Soils Management Procedure (TfNSW 2020), the procedure for areas that are present or suspected to be contaminated with ACM during the DSI involves visual inspection of soil profile and may include (although not necessarily) the collection of soil samples for laboratory analysis. Data from this investigation is used to refine the lateral and vertical extent of areas impacted with ACM, to estimate volume of ACM-impacted soil, and develop appropriate construction management and remediation measures.

12.4 Trigger Criteria for Acid Sulfate Soils

The acid sulfate management plan for M7-M12 Integration project, determined that action criteria are based on the percentage of oxidizable sulfur or Total Potential Acidity (TPA), for broad categories of soil. The suspension peroxide oxidation combined acidity and sulfur (sPOCAS) or chromium reducible sulfur (SCR) suite of analysis is used to assess soil for the presence of ASS. Where soils containing concentrations at or above the action criteria are disturbed, an ASS Management Plan is needed as there is a potential for the soil to generate acid, and specific management may be required. The ASS Action Criteria for each type of material is summarised in **Table 10**.

Table 10: ASS Action Criteria

Type of Material			Action Criteria 1-1000 tonnes ASS disturbed		Action Criteria if more than-1000 tonnes ASS disturbed
Texture range. McDonald et al. (1990)	Approx. clay content (%<0.02mm)	Sulfur trail % S oxidisable (oven-dry basis) e.g., STOS or SPOS	Acid trail mol H+/T (oven-dry basis) e.g. TPA or TSA	Sulfur trail % S oxidisable (oven-dry basis) e.g., STOS or SPOS	Acid trail mol H+/T (oven-dry basis) e.g., TPA or TSA
Coarse Texture	<5	0.03	18	0.03	18
Sands to loamy sands	5 - 40	0.06	36	0.03	18
Medium Texture	>40	0.1	62	0.03	18

12.5 Salinity

Laboratory testing of soil salinity (electrical conductivity of a sample with one part soil to five parts waters, EC1:5) is converted into conductivity of a saturated soil extract (ECe) by a multiplication factor to consider the influence of soil texture (Taylor, 1996). The salinity action criteria for each class are located in **Table 11**. In accordance with the Department of Land and Water Conservation 2002 – *Site Investigation for Urban Salinity* – a soil is often considered saline if it has an ECe of 4 dS/m. For the purposes of satisfying M7REMMs C6, this value has been adopted in determining soils which are considered ‘saline’.

Table 11: Salinity Action Criteria

Class	ECe (dS/m)	Comments
Non-saline	< 2	Salinity efforts mostly negligible
Slightly saline	2-4	Yields of very sensitive crops may be affected
Moderately saline	4-8	Yields of many crops may be affected
Highly saline	8-16	Only tolerant crops yield satisfactorily
Extremely saline	>16	Only a few very tolerant crops yield satisfactorily

12.6 Aesthetics

There are no quantifiable guidelines in determining if soils are appropriately aesthetic, however, the NEPM 2013 does indicate that professional judgement concerning the quantity, type and distribution of foreign materials and/or odours in regard to the specific land use should be employed. The following scenarios (but not limited to) would trigger further aesthetic assessment:

- Hydrocarbon sheen on surface water.
- Anthropogenic soil staining; and
- Odorous soils i.e., petroleum hydrocarbon odours or hydrogen sulfidic odours in soil.

To assess the potential risk of contaminant concentrations in soil, reference was primarily made to ASC NEPM for assessment criteria, where available. ASC NEPM Schedule B1 provides a framework for the use of investigation and screening levels based on human health and ecological risks.

Soil health investigation levels (HILs), soil health screening levels (HSLs) ecological investigation levels (EILs) and ecological screening levels (ESLs) adopted from Schedule B1 of ASC NEPM to assess the significance of human health and ecological risk associated with chemical contaminants in soil and the potential requirement for remediation and/or management.

- Schedule B1 defines residential A and Industrial/Commercial D land uses as including commercial/industrial such as shops, offices, factories, and industrial sites. The site is proposed to be used as an ancillary facility during the works as part of the M7-M12 Integration project, and as such, the Industrial/Commercial D assessment criteria are considered appropriate for determining future site suitability during this assessment.

13. RESULTS

13.1 Field Observations and Data

13.1.1 Site Observations

The following observations were noted based on the visual inspection of the ground surface across the site during the site inspections:

- The area of investigation consists of vegetated undeveloped land underneath the M7 Motorway.
- No visible surface staining, asbestos or other visual contaminant was observed within the area.

13.1.2 Subsurface Profile

Batter

A total of two targeted boreholes (denoted as BH03 and BH04) advanced within the northbound and southbound batters, to a maximum depth of 1.0 mbgl.

The soil profile across the underbridge areas generally comprised of:

- FILL: Sandy SILT, low plasticity, light to dark brown

No natural material was encountered in any of the boreholes advanced in the underbridge areas. No ACM, discolouration, staining, hydrocarbon odour or sulfidic ores was noted in the boreholes. Occasional paint chippings were observed.

No groundwater was intercepted in any of the boreholes advanced within the underbridge area.

Ancillary Area

A total of four targeted boreholes (denoted as BH07 to BH10) advanced within the ancillary area, to a maximum depth of 1.0 mbgl.

The soil profile across the underbridge areas generally comprised of:

- FILL: Sandy SILT, low plasticity, light to dark brown

No natural material was encountered in any of the boreholes advanced in the underbridge areas. No ACM, discolouration, staining, hydrocarbon odour or sulfidic ores was noted in the boreholes. Occasional paint chippings were observed.

No groundwater was intercepted in any of the boreholes advanced within the underbridge area.

Geotechnical Assessment – Pile boreholes

EDP accompanied Macquarie Geotechnical (Macgeo) during the geotechnical assessment, with two boreholes (BH154 and BH155) advanced and sampled within The Site to depths 2.0 and 3.0 mbgl respectively.

The soil profile across the within BH154 and BH155 comprised:

- TOPSOIL: Clayey SILT trace sand, low plasticity, dark brown, fine-grained sand, presence of rootlets.
- FILL: Gravelly SILT with sand, low plasticity, dark brown.
- Natural: Silty CLAY: medium plasticity, orange-brown mottled red/grey.
- Natural: Siltstone: dark grey, laminated.

No ACM, discolouration, staining, hydrocarbon odour or sulfidic ores was noted in the boreholes.

No groundwater was intercepted in any of the boreholes advanced within the site.

Photographs taken during the assessment are provided in **Appendix D** and borehole logs are provided in **Appendix E**.

13.1.3 Volatile Organic Compounds Field Screening

Concentrations of volatile contaminants assessed in the field using the PID during the soil assessment conducted during the site inspections generally ranged from 0.0 to 0.5 parts per million (ppm). Indicating the absence of gross volatile contaminant impact within the soil materials across the site.

Calibration certificates for the equipment used in the field are provided in **Appendix H**.

13.1.4 Acid Sulfate Soils - pH_f and pH_{fox} Field Screening

None of the 21 samples showed any evidence of presence of ASS as per the National acid sulfate soils identification (WQA 2018), such as odour, presence of shells or appearance. Nevertheless, soil samples were collected within eight sampling locations and analysed for presence of ASS by way of an initial ASS field screen (in accordance with ASS Guidelines (WQA 2018)). A review of analytical results indicated the following:

- pH_f (pH prior to oxidation) ranged between 6.01 and 6.96;
 - pH_{fox} (pH post oxidation) ranged between 5.75 and 6.85 (nil samples recorded pH_{fox} less than 3); and
 - The observed reaction of soil samples varied for all samples were low, indicating no risk of acid generation in oxidised at the site.
- Based on the review of the acid sulfate screen analytical results, additional analysis was not deemed by EDP to be required to determine the risk of site soils being ASS.

13.1.5 Salinity

Across the site, 21 targeted samples were collected for salinity assessment complying with M7 REMMS C6. Sampling was conducted in accordance with WSROC, 2003. For the purpose of this discussion, the results were divided by 1,000 to convert to dS/m and multiplied by a multiplication factor to consider the influence of soil texture (Taylor, 1996). According to the Construction Environmental Management Plan - Appendix B4 - Construction Soil and Water Management Sub-plan - Appendix L: Acid Sulfate Soils and Salinity Management Plan for the M7-M12 Integration project, a conversion factor of seven is adopted. A conversion factor of seven is applied for medium clays, which is reflective of the soil types found in Western Sydney and across the M7-M12 project alignment. The analytical results are presented in dS/m in **Table 12**.

Table 12: Salinity Results Summary

Sample ID	Depth (mbgl)	Multiplication Factor	EC ($\mu\text{S}/\text{cm}$)	ECe (dS/m)	Salinity
EDP-DSI.M7.007.BH03_0.4	0.4	7	34	0.24	Non-saline
EDP-DSI.M7.007.BH03_1.0	1	7	220	1.54	Non-saline
EDP-DSI-M7.007BH04-0.2	0.2	7	100	0.7	Non-saline
EDP-DSI-M7.007BH07-0.2	0.2	7	150	1.05	Non-saline
EDP-DSI-M7.007BH07-1.0	1	7	350	2.45	Slightly saline
EDP-DSI-M7.007BH08-0.2	0.2	7	150	1.05	Non-saline
EDP-DSI-M7.007BH08-1.0	1	7	260	1.82	Non-saline
EDP-DSI-M7.007BH09-0.2	0.2	7	38	0.27	Non-saline
EDP-DSI-M7.007BH09-1.0	1	7	350	2.45	Slightly saline
EDP-DSI-M7.007BH10-0.2	0.2	7	52	0.36	Non-saline
EDP-DSI-M7.007BH10-1.0	1	7	400	2.8	Slightly saline
EDP-M7.DSI.BH154_0.5	0.5	7	250	1.75	Non-saline
EDP-M7.DSI.BH154_1.0	1	7	160	1.12	Non-saline
EDP-M7.DSI.BH154_1.5	1.5	7	270	1.89	Non-saline
EDP-M7.DSI.BH154_2.0	2	7	220	1.54	Non-saline
EDP-M7.DSI.BH155_0.5	0.5	7	390	2.73	Slightly saline
EDP-M7.DSI.BH155_1.0	1	7	200	1.4	Non-saline
EDP-M7.DSI.BH155_1.5	1.5	7	500	3.5	Slightly saline
EDP-M7.DSI.BH155_2.0	2	7	470	3.29	Slightly saline
EDP-M7.DSI.BH155_2.5	2.5	7	460	3.22	Slightly saline
EDP-M7.DSI.BH155_3.0	3	7	470	3.29	Slightly saline

13.2 Asbestos

Field screening for asbestos in soil was undertaken at surface (typically 0.0 - 0.2 m beneath topsoil root zones) at all six hand-augured borehole locations. No visual asbestos was identified during this screening.

A total of 15 soil samples, collected from depths ranging from 0.0 mbgl to 1.0 mbgl, were analysed for asbestos in accordance with AS4964. The methodology is detailed in the laboratory reports presented in **Appendix F**.

The laboratory results showed the following:

- Asbestos was not detected at concentrations above the LOR of 0.1 g/kg, with asbestos not reported in any form or concentration (presence/absence) in any soil samples collected and analysed and
- No respirable fibres were detected within any of the soil samples analysed.

13.3 Chemical Analysis

13.3.1 Soil Chemical Analytical Results

A review of the analytical results for the chemical contaminants analysed indicated that the analytical concentrations of CoPC were generally less than the laboratory practical quantitative limits (PQLs) with the exception of metals. However, all results were less than the adopted investigation and screening levels.

The results are detailed in the attached NATA certificate of analysis provided in **Appendix F**, with the results and assessment criteria summarised in Table G1 provided in **Appendix G**. The sampling locations are shown in **Figure 3** provided in **Appendix A**.

14. QUALITY ASSURANCE AND QUALITY CONTROL

EDP implements project specific quality assurance/quality control (QA/QC) procedures to improve transparency, consistency, comparability, completeness, and confidence in the data collected. The field and laboratory QA/QC procedures, results and compliance with data quality indicators (DQIs) define the acceptable level of error required for this assessment.

The field and laboratory QA/QC procedures adopted and the summary of results for the assessments at the site are provided in **Appendix I**, with data quality objectives (DQOs), requirements and DQIs discussed.

Based on the QA/QC procedures and subject to the discussion presented in **Appendix I**, the data was deemed suitable for use in this investigation.

15. CONCEPTUAL SITE MODEL

Table 13 - Conceptual Site Model

Location	Activity	Contaminants of Concern	Potential Exposure Pathways	Potential Human and Environmental Receptors	Assessment of Risk
Within the construction footprint, various locations and adjoining study area	Demolition or removal of former building structures Areas of disturbed terrain and potential illegal dumping Unknown fill in bridge batters	Heavy metals, TRH, PAH, BTEX, PCBs, OCP/OPP, and Asbestos (non-friable and friable)	- Downward migration and leaching of contaminants via infiltration of rainwater through the underlying geology - Lateral migration via groundwater to surface water and off-site - Overland flow of surface water to off-site soils and surface water - Absorption or adsorption to fauna and vegetation through contact and diffusion in soil - Dispersion of airborne particulates due to wind - Inhalation, ingestion, dermal contact	<u>Human receptors:</u> - Current site maintenance workers - Construction and maintenance workers, site users - Current and future site users on neighbouring properties <u>Environmental Receptors:</u> - Transient fauna or macroinvertebrates - Vegetation - Groundwater - Surface waters such as Creeks and tributaries within the Eastern Creek Catchment	<u>Health:</u> Low – Unlikely Source-Pathway-Receptor (SPR) linkages potentially complete. <u>Environment:</u> Low – SPR linkage unlikely complete for surface water and groundwater. Low risk to ecology and sensitive ecology
Excavation and Stockpiling of Actual and/or Potential Acid Sulfate Soils, or soils with high salinity hazard	Stockpiling during M7 Westlink construction	- Actual Acid Sulfate and Potential Acid Sulfate (AASS/PASS) - Saline and sodic soils	- Migration of acidic or saline leachate/runoff to surface water or infiltration to groundwater - Rill and gully erosion, salinisation and scarring of the landscape - Dispersion of airborne particulates due to wind - Direct contact with impacted soils causing skin irritation	<u>Human Receptors:</u> - Current site maintenance workers and visitors - Future constructions and maintenance workers, site users and visitors <u>Environmental Receptors:</u> - Surface dependant floral and faunal ecosystems including transient and macroinvertebrate species - Groundwater - Surface waters such as Creeks and tributaries within the Eastern Creek Catchments	<u>Health:</u> Low – Unlikely impact of AASS/PASS or saline soils to human health <u>Environment:</u> Low – SPR linkages unlikely complete for surface water, groundwater and ecology

Location	Activity	Contaminants of Concern	Potential Exposure Pathways	Potential Human and Environmental Receptors	Assessment of Risk
Installation of piles and working platforms in ASS/PASS or soils with high salinity hazard	Construction of piles and working platforms (temporary and permanent structures)	• ASS/PASS • Saline and sodic soils	• Infiltration of acidic or saline leachate into groundwater • Wicking of saline water into bridge structure • Acid corrosion of bridge structure	<u>Human Receptors:</u> • Site maintenance workers or visitors coming into contact with impacted bridge structures • Weakening of bridge structures affecting bridge users <u>Environmental Receptors:</u> • Groundwater	<u>Health: Low</u> – The area will not be readily accessible on foot by the general public, with site maintenance workers to follow site WHS plans and documentation <u>Environment: Low</u> – risk to be managed in design of piles/working platforms and installation method

16. CONSTRAINTS TO THE ASSESSMENT

Given the dense vegetation and grass cover, there is a general limitation on the visual inspection of the project area, which may have unidentified contamination that could have been reasonably identified during the site walkover inspection and investigation.

17. DISCUSSION & CONCLUSION

Based on the review of the site history, desktop assessment, site inspections, intrusive investigation and analytical results forming this DSI, EDP makes the following conclusions:

- A Tier I Qualitative review of the analytical dataset has shown no observed risks to the development from a human health nor an ecological perspective with all results below the respective criteria for ongoing commercial/ industrial land usage.
- Physical characteristics of soils across the site, specifically acid sulfate potential and salinity have not shown evidence of PASS/AASS, which would preclude the use of the soil as part of the future road construction.
- Soils within the investigation extent of the site are considered low risk with regards to contamination and acceptable for re-use during the construction of the M7M12 Integration project and for the final intended land use. Based on the findings of this report, areas previously identified as moderate and/or high risk in the CIA (AECOM 2022) conducted for the site under Condition 1A of Schedule 1, have been redefined as low risk.

The preparation of this DSI is deemed to satisfy the NSW M7 CoA, Revised Environmental Management Measures EIS as presented in **Section 4**.

18. RECOMMENDATIONS

Based on the findings of this DSI, EDP requires the following recommendations are implemented to ensure the low risk for commercial / industrial land use conclusion is upheld or can be confirmed. This includes the following:

- Although not identified onsite at surface nor within sub surface soils at any of the locations tested, any asbestos uncovered during contamination investigation or construction works must be managed as per:
 - M7-M12 Integration project Construction Environmental Management Plan – Appendix B: Construction Contamination Land Management Sub-plan – Appendix B: Asbestos Management Plan (M712UDC-JHGRP-M7A-EN-PLN-000077_CCLMP_RevE_AppB).
 - M7-M12 Integration project Construction Environmental Management Plan - Appendix B4: Construction Soil and Water Management Sub-plan – Appendix N: Asbestos Management Plan (M7M12 UDC-JHGRP-M7A-EN-PLN-000718_CSWMP_RevH_AppN).
 - Asbestos containing materials must be delineated and removed as per methodologies presented in the AMP. Where the nature and extent of the asbestos contamination cannot be managed under the AMP, a remediation action plan (RAP) is deemed necessary.
- If the future use of the site is proposed to change to a more sensitive land use, a review of the results with comparison against human health and ecological criteria for the proposed new land use must be undertaken.

STATEMENT OF LIMITATIONS

This document has been prepared in response to specific instructions from the client to whom the report has been addressed. The work has been undertaken with the usual care and thoroughness of the consulting profession. The work is based on generally accepted standards, practices of the time the work was undertaken. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The report has been prepared for the use by the client and the use of this report by other parties may lead to misinterpretation of the issues contained in this report. To avoid misuse of this report, EDP advise that the report should only be relied upon by the client and those parties expressly referred to in the introduction of the report. The report should not be separated or reproduced in part and EDP should be retained to assist other professionals who may be affected by the issues addressed in this report to ensure the report is not misused in any way.

EDP is not a professional quantity surveyor (QS) organisation. Any areas, volumes, tonnages or any other quantities noted in this report are indicative estimates only. The services of a professional QS organisation should be engaged if quantities are to be relied upon.

Sampling Risks

EDP acknowledges that any scientifically designed sampling program cannot guarantee all subsurface contamination will be detected. Sampling programs are designed based on known or suspected site conditions and the extent and nature of the sampling and analytical programs will be designed to achieve a level of confidence in the detection of known or suspected subsurface contamination. The sampling and analytical programs adopted will be those that maximises the probability of identifying contaminants. The client must therefore accept a level of risk associated with the possible failure to detect certain subsurface contamination where the sampling and analytical program misses such contamination. EDP will detail the nature and extent of the sampling and analytical program used in the investigation in the investigation report provided.

Environmental site assessments identify actual subsurface conditions only at those points where samples are taken and when they are taken. Soil contamination can be expected to be non-homogeneous across the stratified soils where present on site, and the concentrations of contaminants may vary significantly within areas where contamination has occurred. In addition, the migration of contaminants through groundwater and soils may follow preferential pathways, such as areas of higher permeability, which may not be intersected by sampling events. Subsurface conditions including contaminant concentrations can also change over time. For this reason, the results should be regarded as representative only.

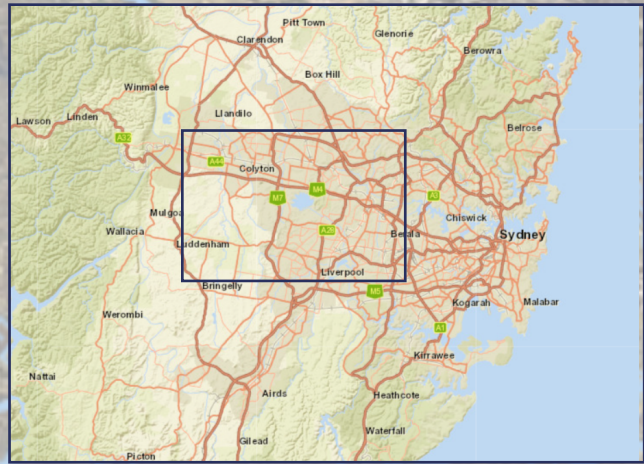
The client recognises that sampling of subsurface conditions may result in some cross contamination. All care will be taken and the industry standards used to minimise the risk of such cross contamination occurring, however, the client recognises this risk and waives any claims against EDP and agrees to defend, indemnify and hold EDP harmless from any claims or liability for injury or loss which may arise as a result of alleged cross contamination caused by sampling.

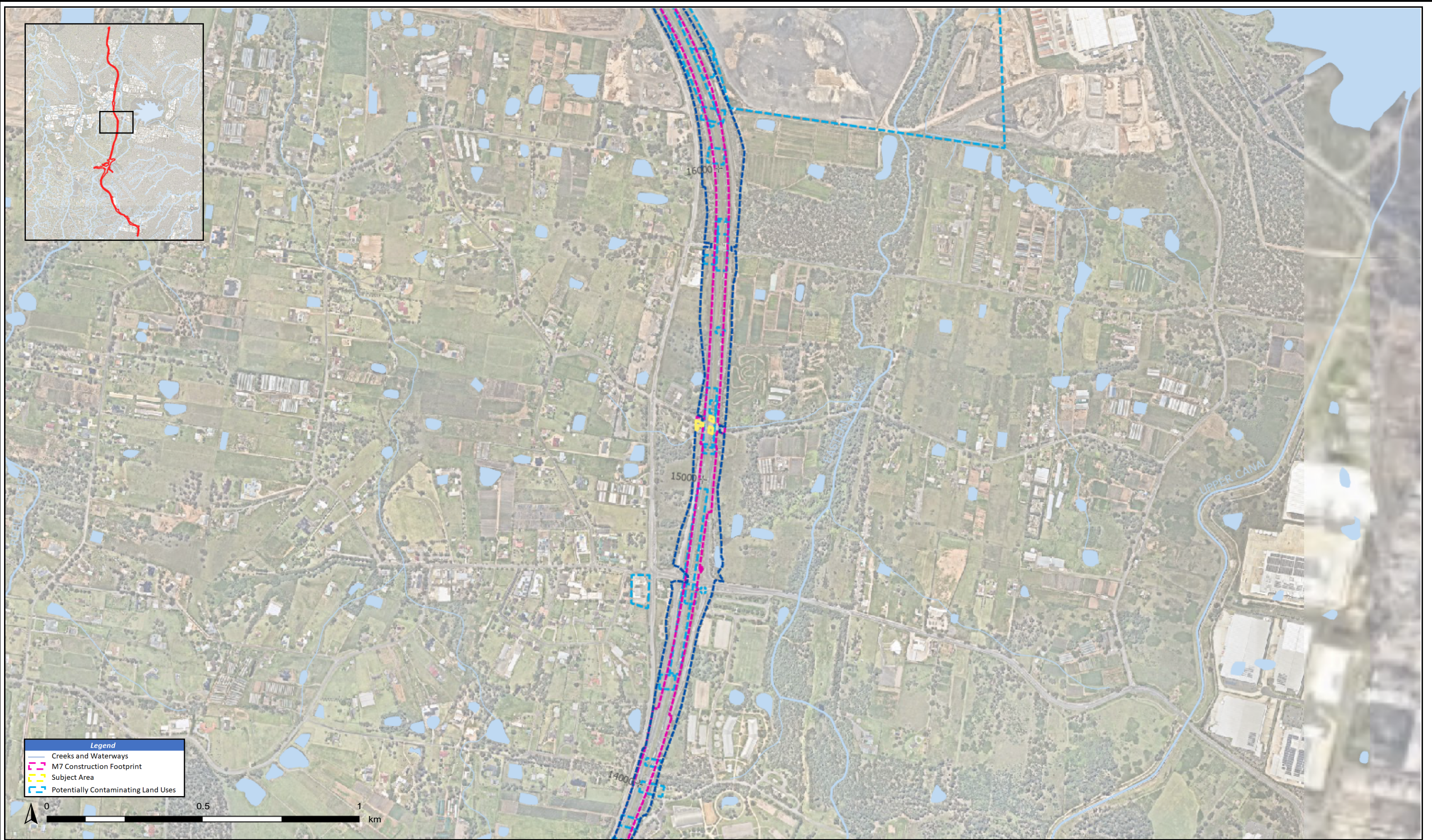
Reliance on Information Provided by Others

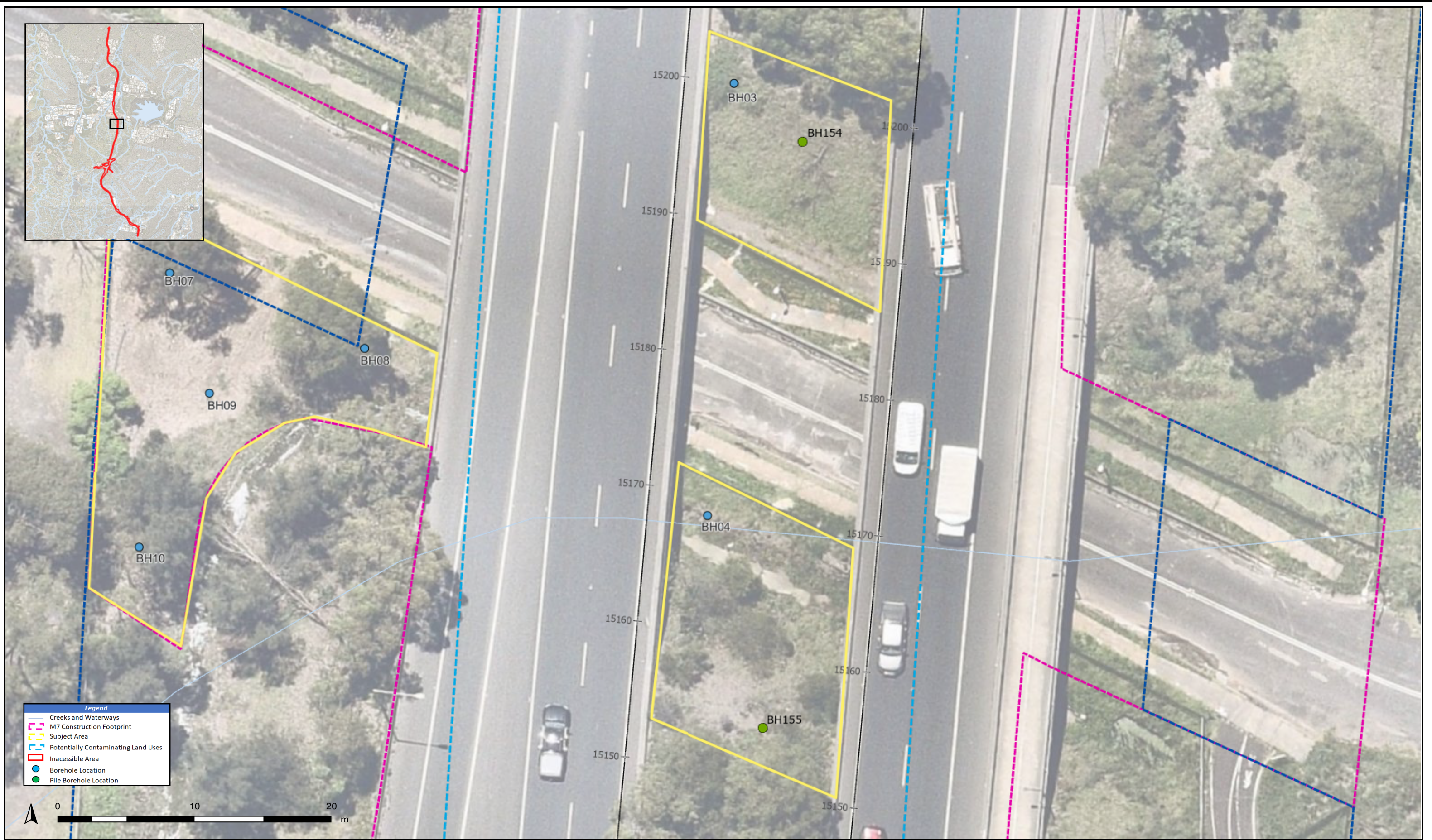
EDP notes that where information has been provided by other parties in order for the works to be undertaken, EDP cannot guarantee the accuracy or completeness of this information the client therefore waives any claim against the company and agrees to indemnify EDP for any loss, claim or liability arising from inaccuracies or omissions in information provided to EDP by third parties. No indications were found during our investigations that information contained in this report, as provided to EDP, is false.

Recommendations for Further Study - The industry recognised methods used in undertaking the works may dictate a staged approach to specific investigations. The findings therefore of this report may represent preliminary findings in accordance with these industry recognised methodologies. In accordance with these methodologies, recommendations contained in this report may include a need for further investigation or analytical analysis. The decision to accept these recommendations and incur additional costs in doing so will be at the sole discretion of the client and EDP recognises that that the client will consider their specific needs and the business risks involved. EDP does not accept any liability for losses incurred as a result of the client not accepting the recommendations made within this report.

APPENDIX A: FIGURES







APPENDIX B: HISTORICAL IMAGES

Site Details:	M7/M12 Integration Project - Redmayne Rd, Horsley Park NSW 2175
EDP Reference:	S-05667.DSI.M7.007_Redmayne Road



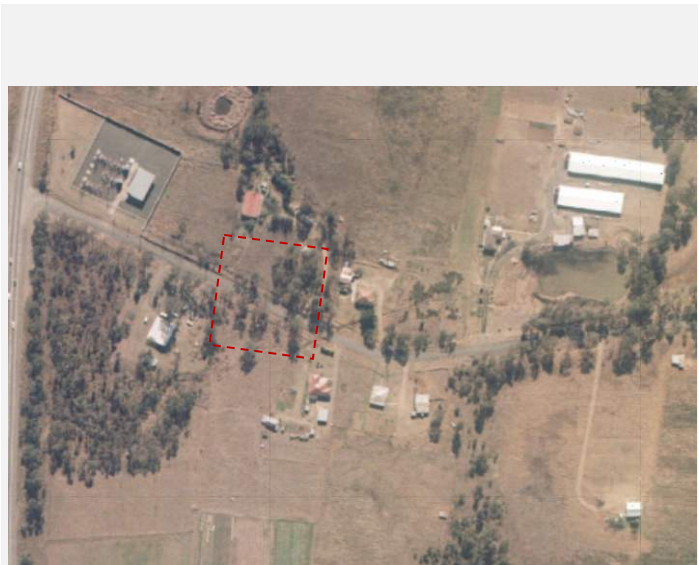
Historical
Photograph 1: Aerial image of subject area in 1947. Source: portal.spatial.nsw.gov.au.
Dashed red outlines approximate site location.



Historical
Photograph 2: Detailed aerial image of subject area in 1965. Source: portal.spatial.nsw.gov.au.
Dashed red outlines approximate site location.



Historical
Photograph 3: Detailed aerial image of subject area in 1978. Source: portal.spatial.nsw.gov.au.
Dashed red outlines approximate site location.



Historical
Photograph 4: Detailed aerial image of subject area in 1986. Source: portal.spatial.nsw.gov.au.
Dashed red outlines approximate site location.

Site Details:	M7/M12 Integration Project - Redmayne Rd, Horsley Park NSW 2175
EDP Reference:	S-05667.DSI.M7.007_Redmayne Road



Historical
Photograph 5:

Detailed aerial image of subject area in 1998. Source: portal.spatial.nsw.gov.au.
Dashed red outlines approximate site location.



Historical
Photograph 6:

Aerial image of subject area in 2004. Source: portal.spatial.nsw.gov.au.
Dashed red outlines approximate site location.



Historical
Photograph 7:

Detailed aerial image of subject area in 2005. Source: portal.spatial.nsw.gov.au.
Dashed red outlines approximate site location.



Historical
Photograph 8:

Aerial image of subject area in 2013. Source: portal.spatial.nsw.gov.au.
Dashed red outlines approximate site location.

Site Details:	M7/M12 Integration Project - Redmayne Rd, Horsley Park NSW 2175
EDP Reference:	S-05667.DSI.M7.007_Redmayne Road



Historical Photograph 9:	Detailed aerial image of subject area in 2022. Source: portal.spatial.nsw.gov.au. Dashed red outlines approximate site location.
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End of Photographic Log

APPENDIX C: LAND INSIGHT REPORT



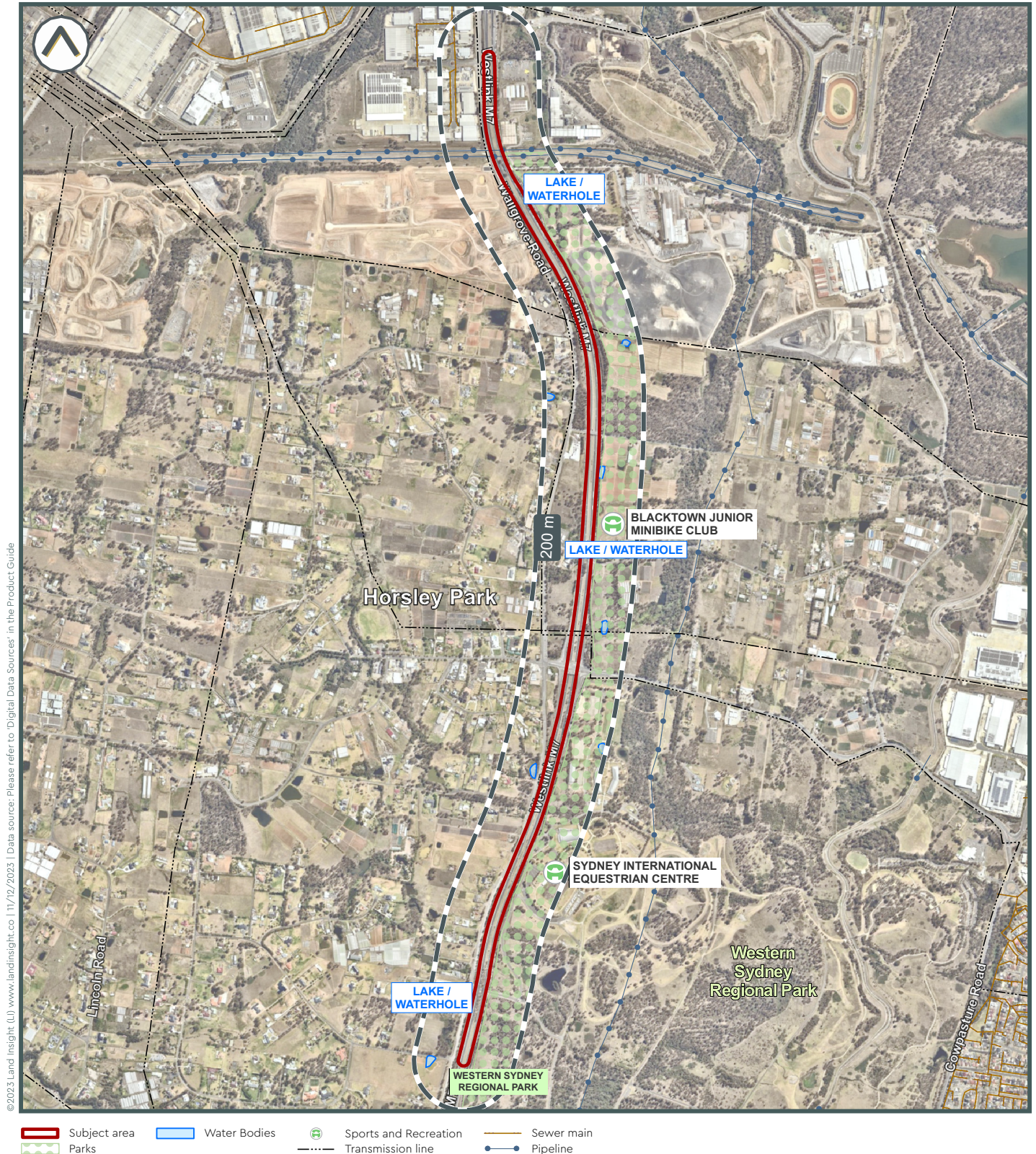
Appendix A

REPORT MAPS

Westlink M7 Motorway Chainage 13000 - 18000
Western Sydney, NSW

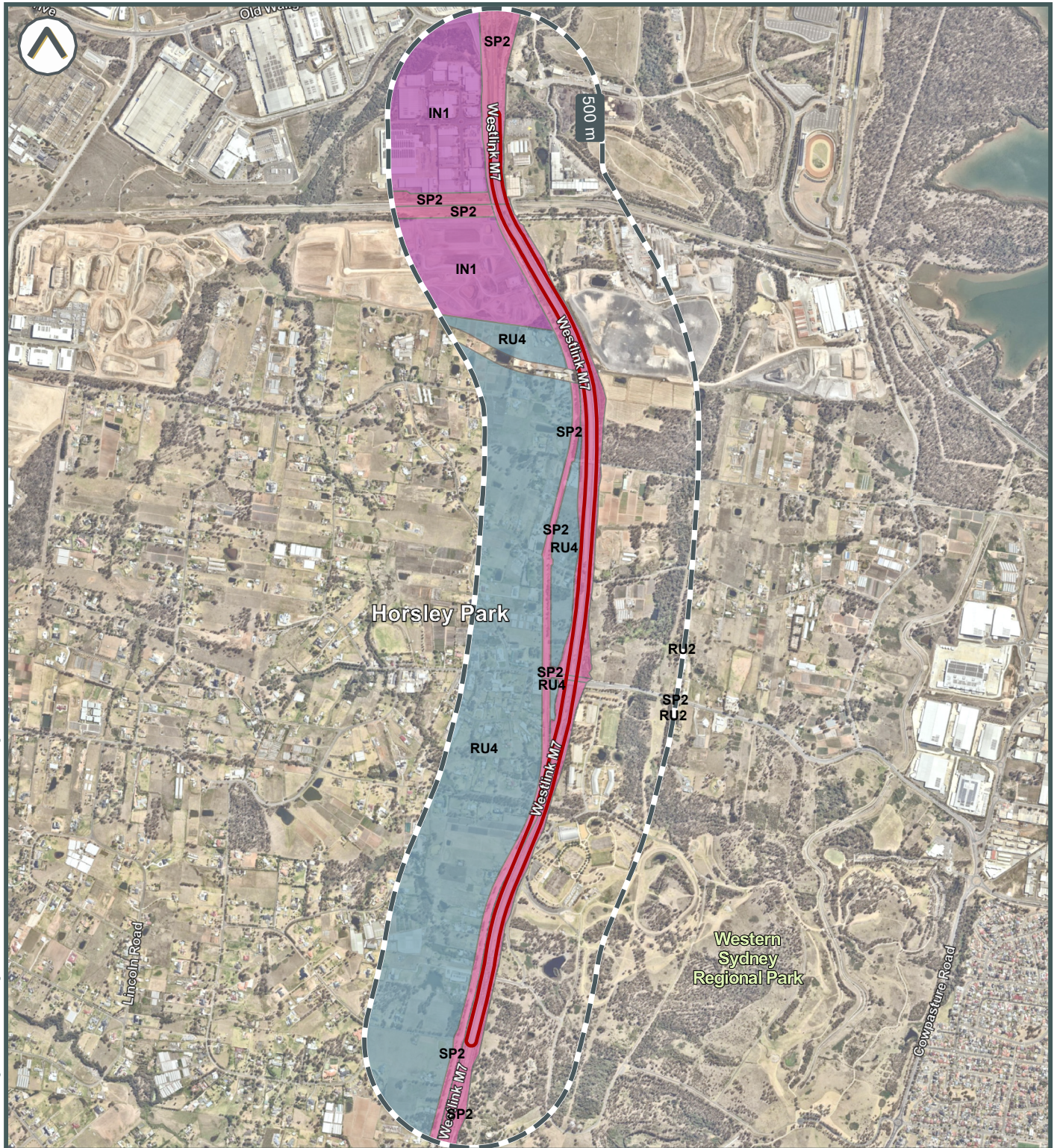


Subject Area and Sensitive Receptors





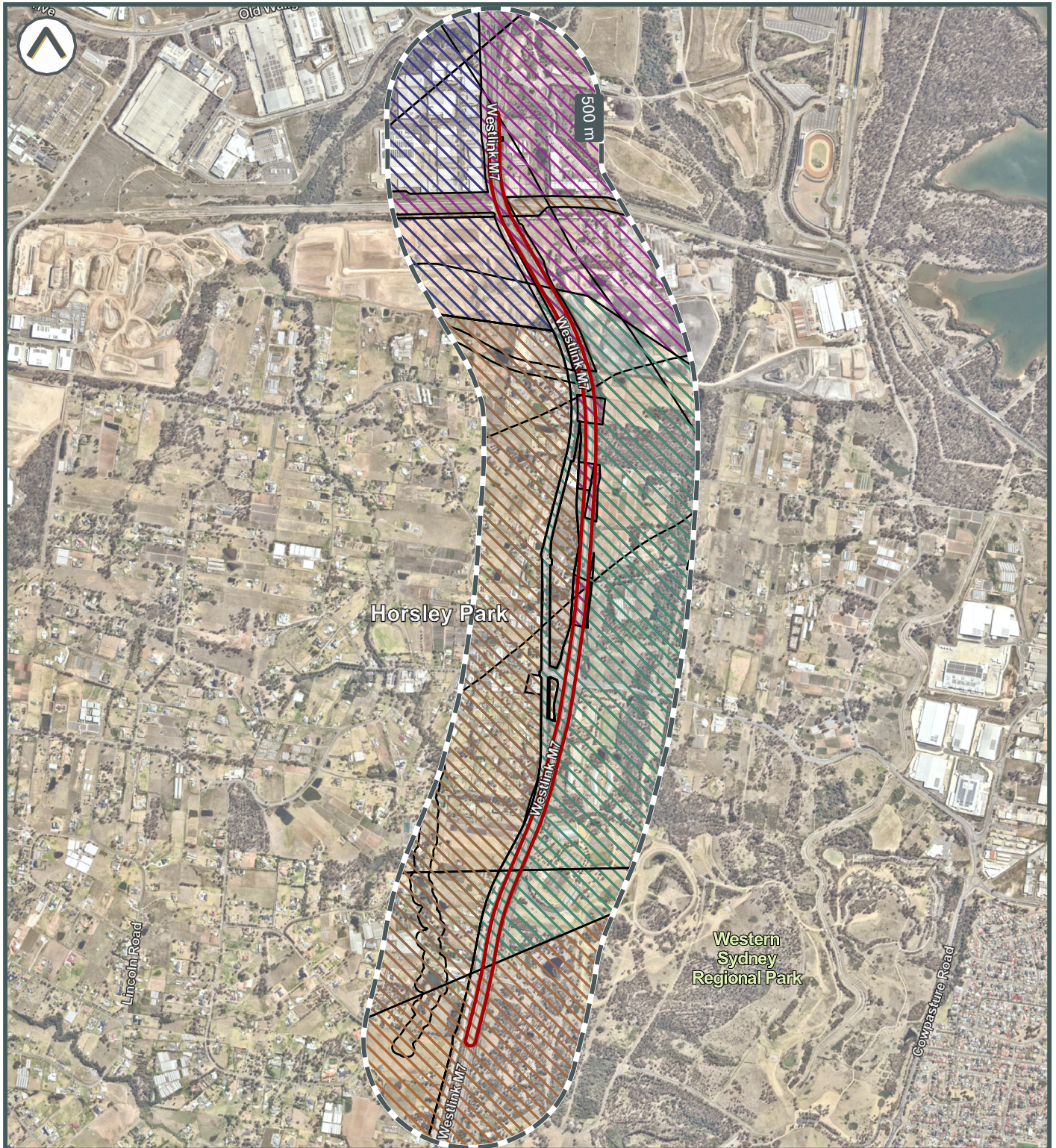
Zoning



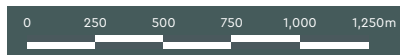


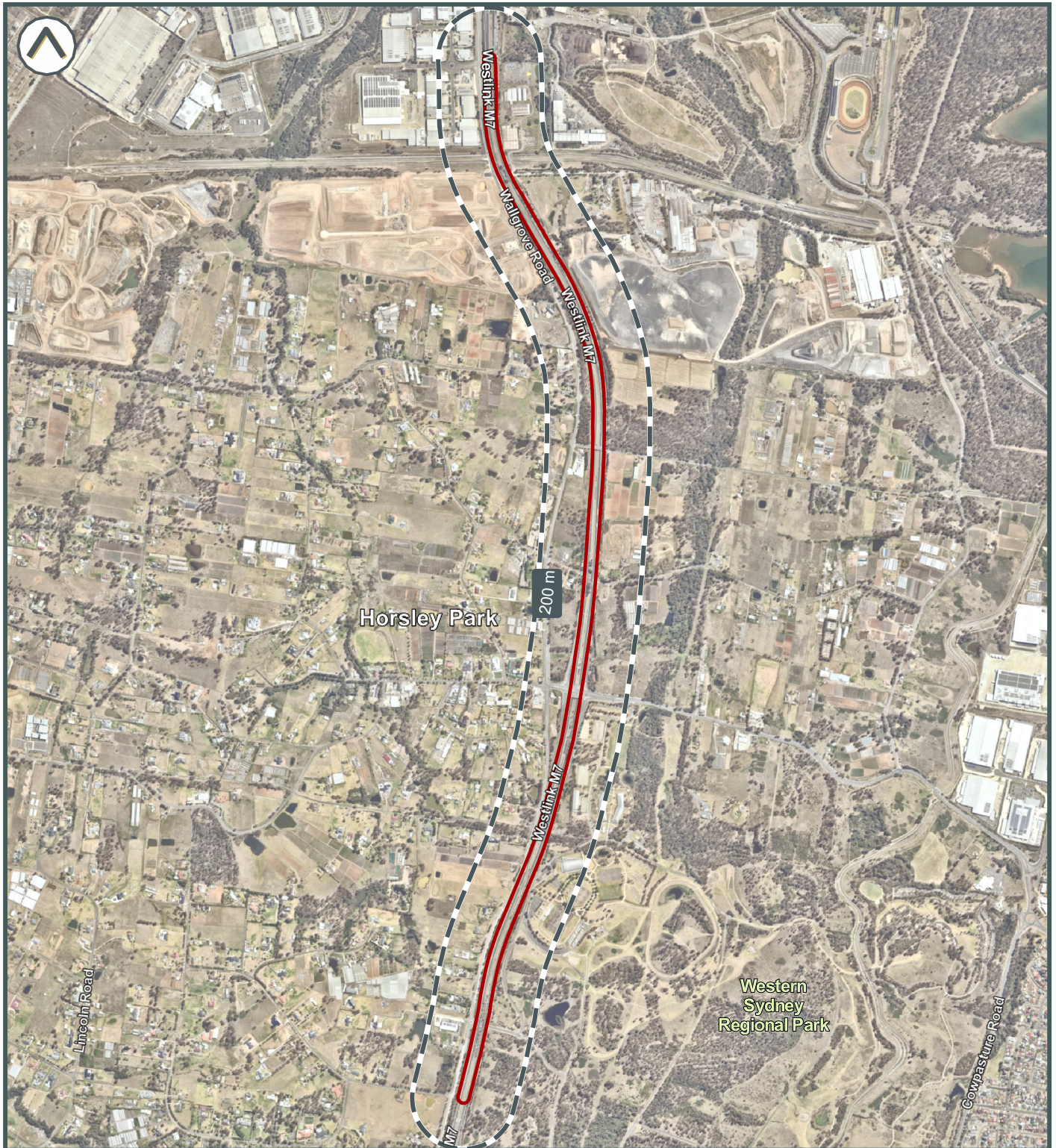
Planning Overlays

©2023 Land Insight (LI) www.landinsight.co | R:\LI\3924 ESR Western Sydney\GIS\Project\LI-XXXXX XXX\ 11/12/2023 | Data source: Please refer to 'Digital Data Sources' in the Product Guide



- | | | |
|----------------------------------|------------------------------|---------------------------------|
| Subject area | Height of Building | Local Provisions |
| Planning Overlays | Industrial Release Area | Lot Size |
| Air Noise Exposure Forecast | Infrastructure | Obstacle Limitation Surface |
| Bulk Water Supply Infrastructure | Key Sites | Riparian Lands and Watercourses |
| Coal Seam Gas Exclusions | Land Reservation Acquisition | |



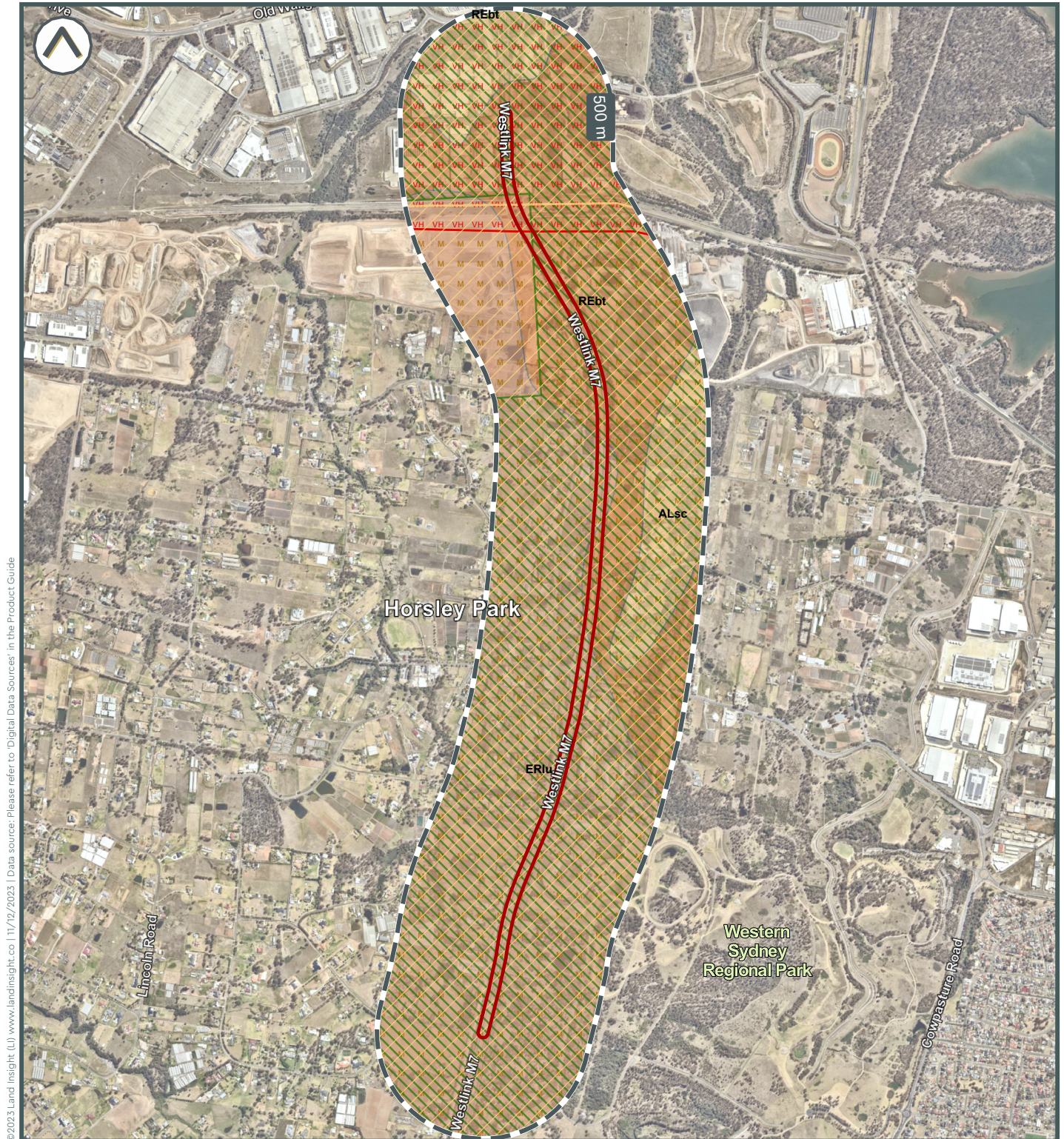


 Subject area

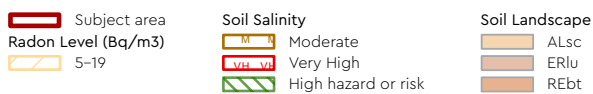




Soil Landscape and Salinity

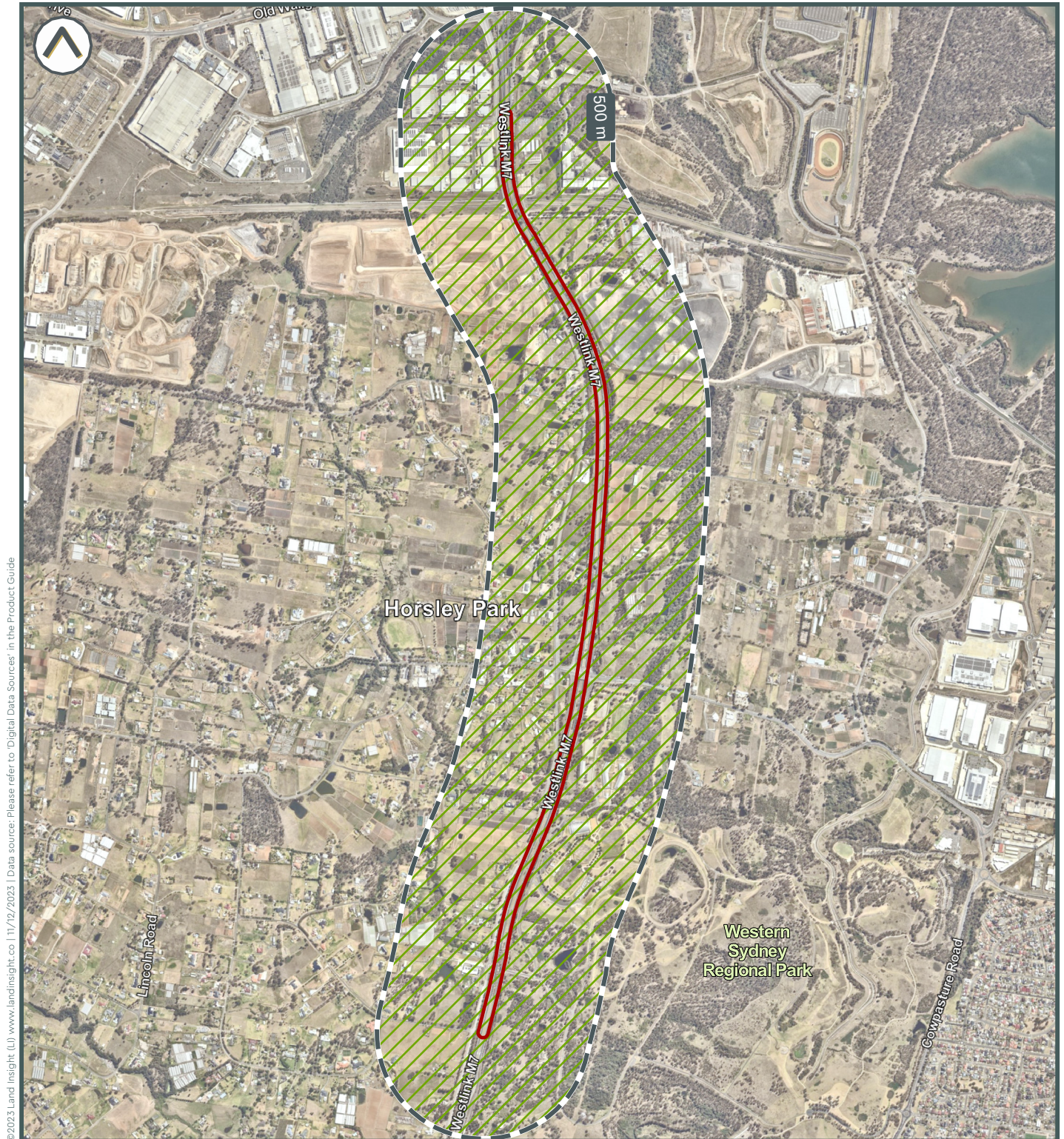


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Acid Sulfate Soils

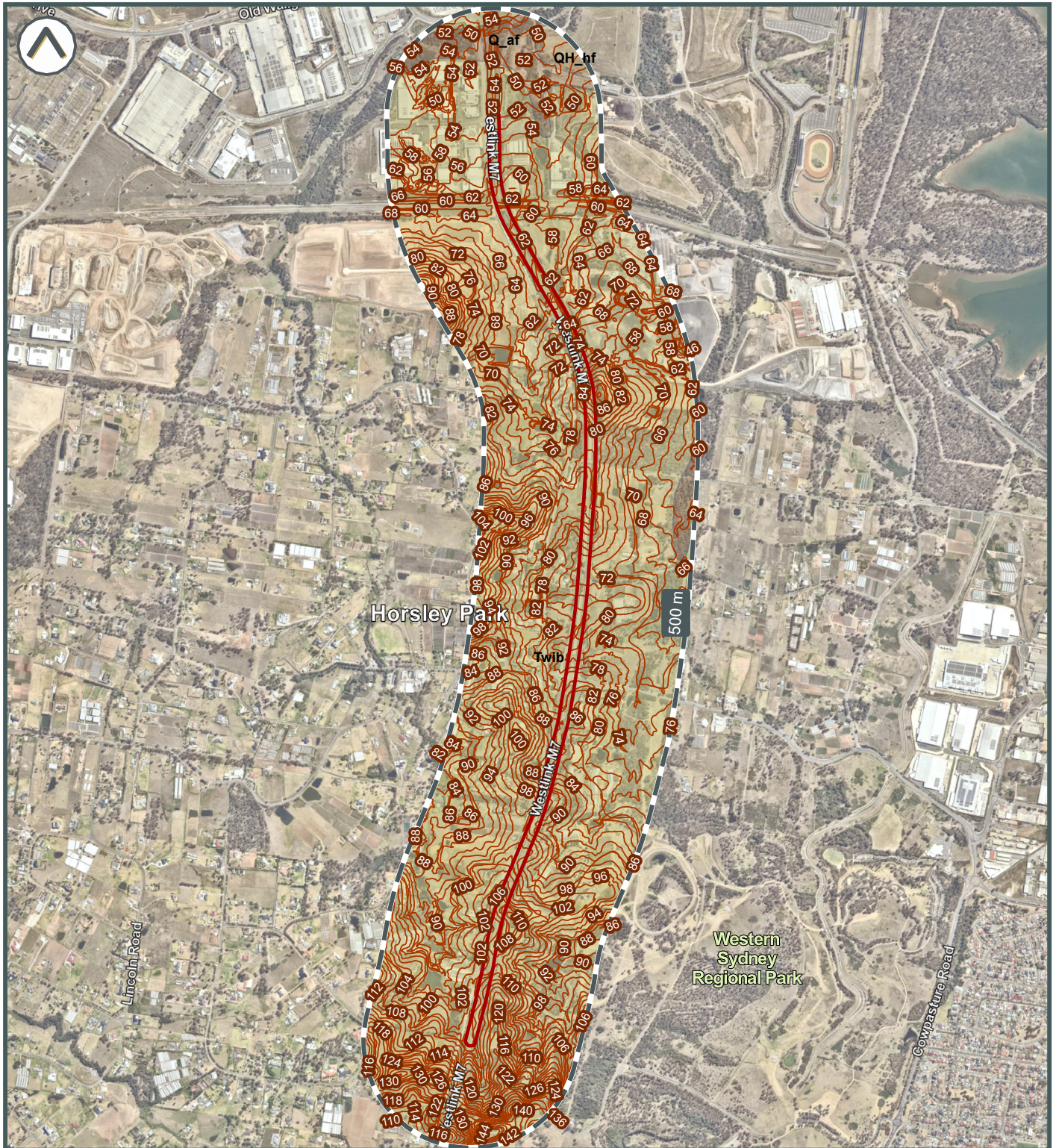


- Subject area
- Atlas of Australian Acid Sulfate Soils
- Extremely low probability of occurrence





Geology and Topography





Groundwater Dependent Ecosystems & Hydrogeology Constraints

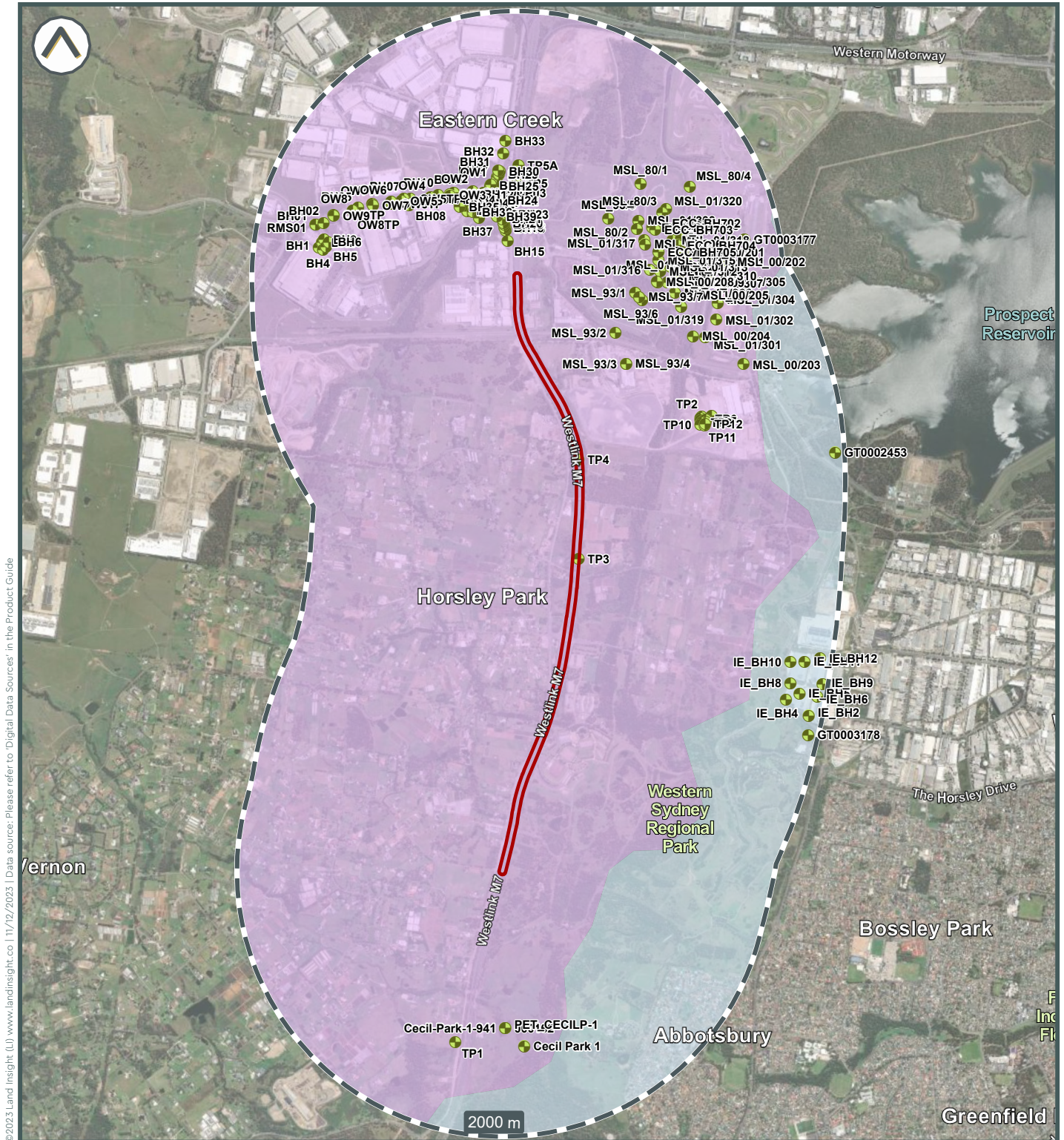


- Subject area
- Groundwater bores
- Ecosystems that rely on Subsurface presence of Groundwater
- High potential GDE – from national assessment
- Moderate potential GDE – from national assessment
- Low potential GDE – from national assessment
- Wetlands
- Aquifer type
- Porous, extensive aquifers of low to moderate productivity





Groundwater and Other Bores

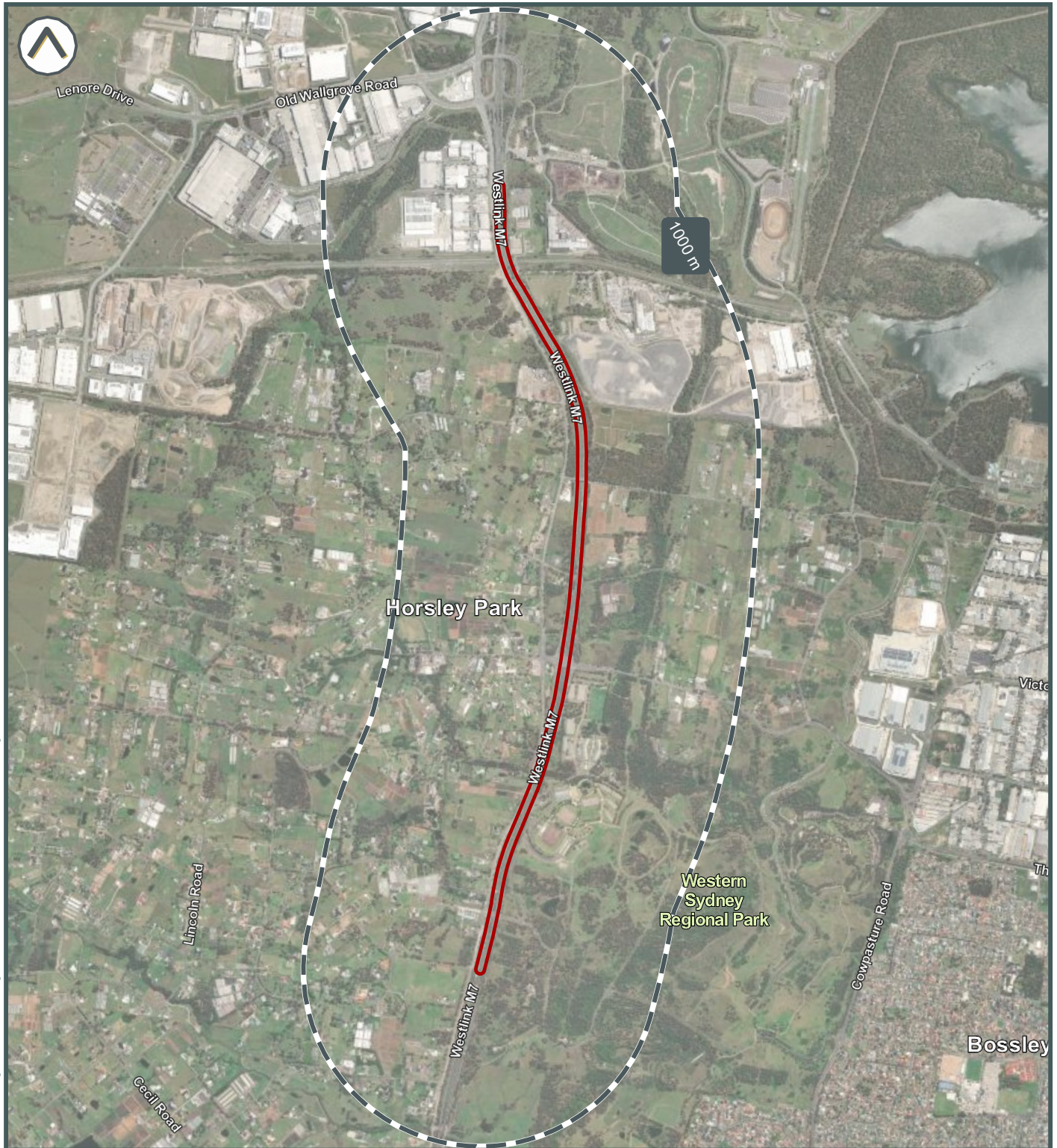


- Subject area
- Other borehole/monitoring well location
- Salinity Class
- Saline (>3000mg/L)
 - No Data





Contaminated Land Public Register

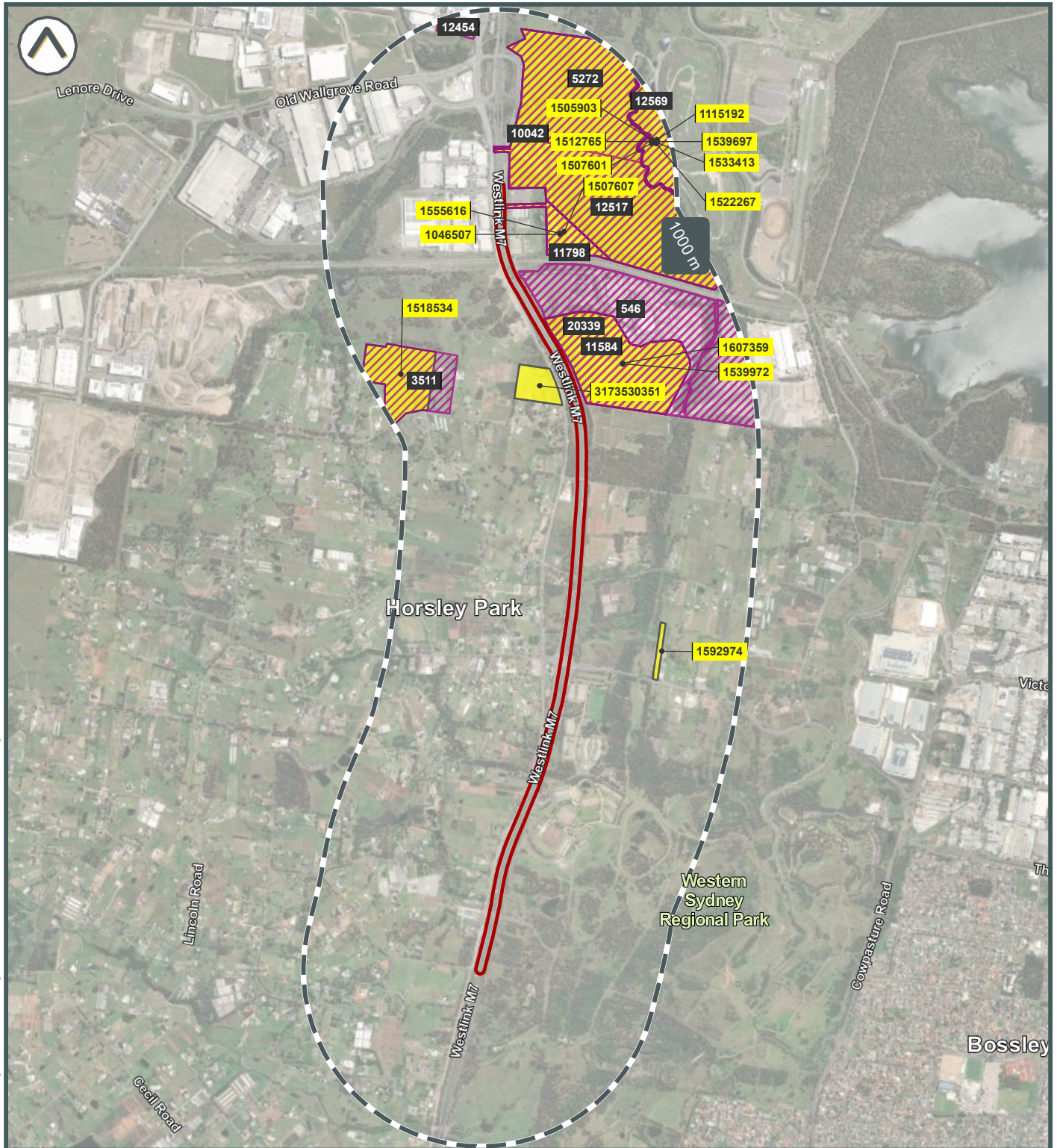


Subject area





Licences, Approvals & Assessments

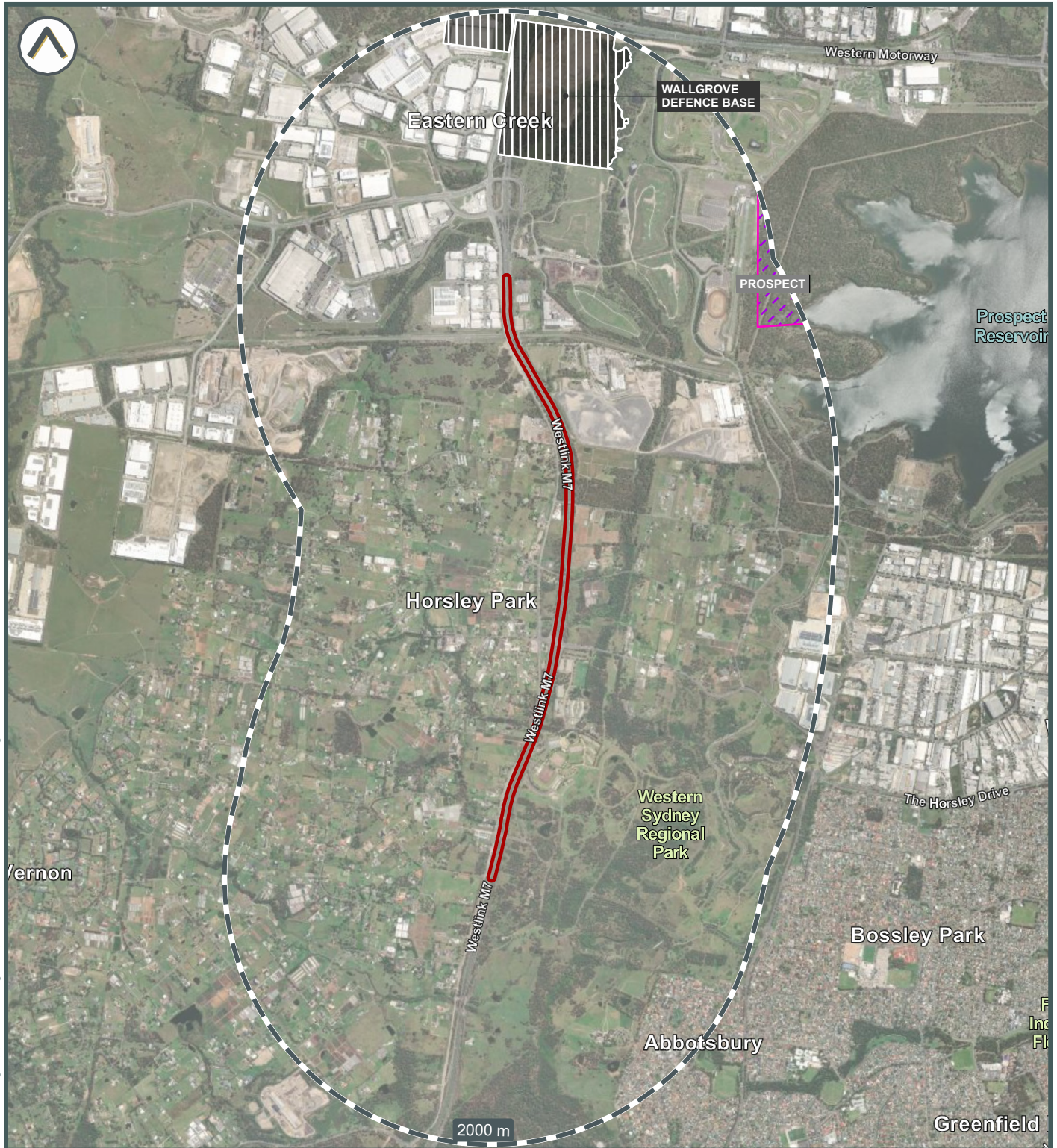


- Subject area POEO Licences Clean Up and Penalty Notices
 Issued





Sites Regulated by Other Jurisdictional Body

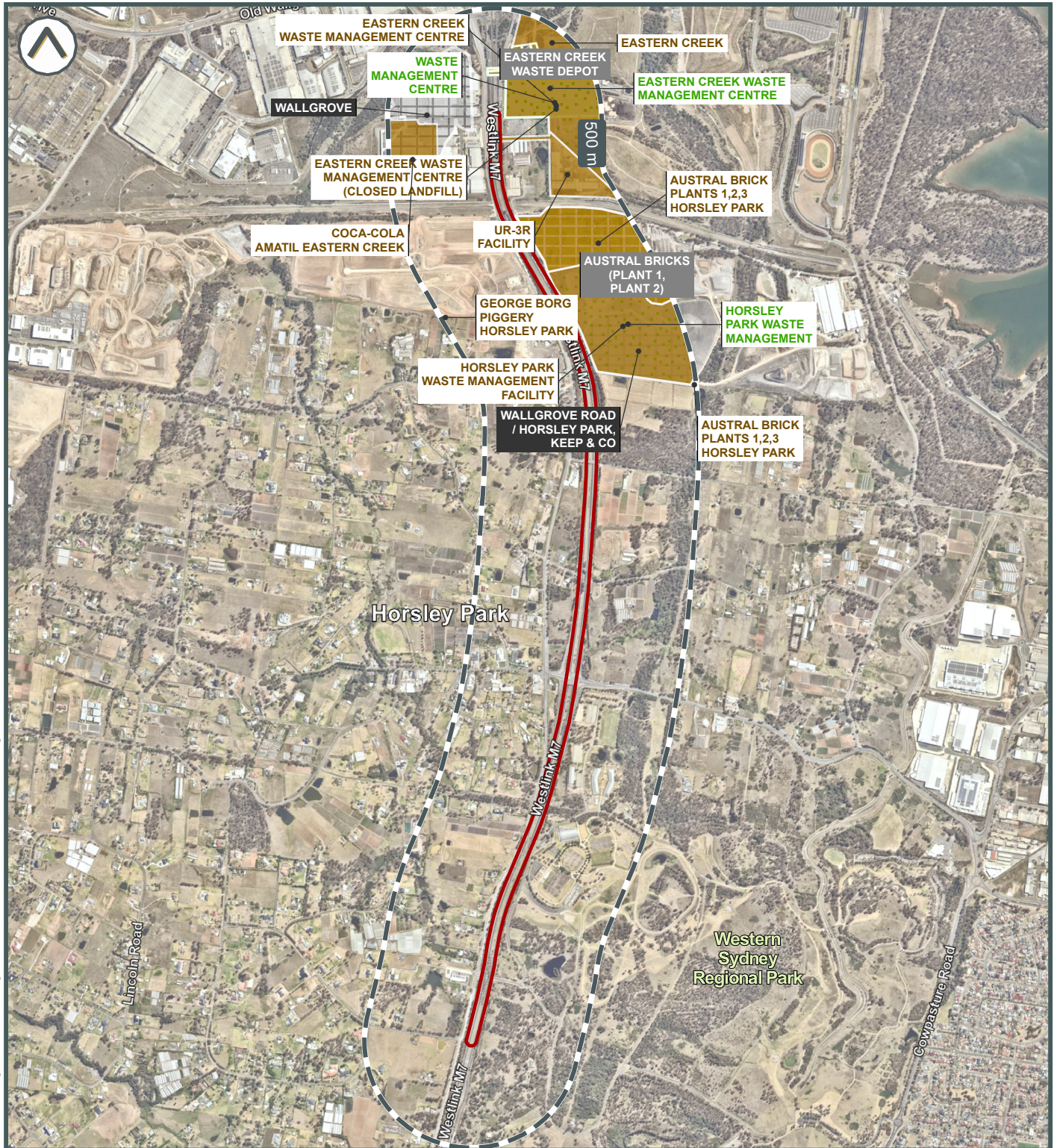


- Subject area
- Defence Area / Military Sites
- Unexploded Ordnance (UXO) Areas
- Other





Other Potential Hazard Sources



- Subject area
- NPI Facilities
- Landfill Sites
- Historical (legacy) Landfill Sites
- Quarries
- Derelict/Formal Quarries





Potentially Contaminating Activities (PCAs)

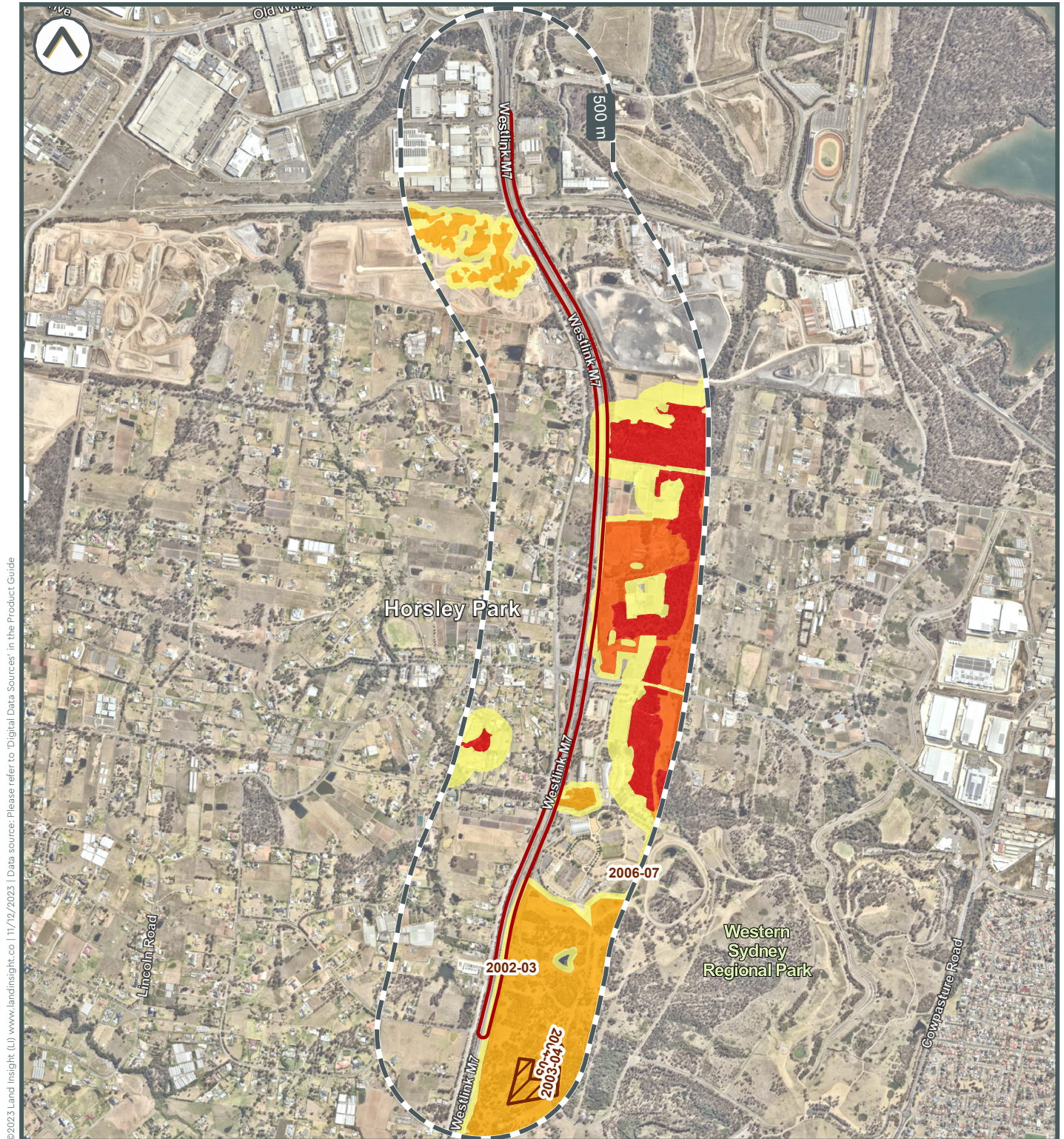


- Subject area
- Petrol Stations and Fuel Terminals
- Waste and Recycling Facilities





Fire Hazards



- Subject area
- Vegetation Category 2
- Fire History
- Vegetation Buffer
- Bushfire Prone Area
- Vegetation Category 1
- Vegetation Category 3



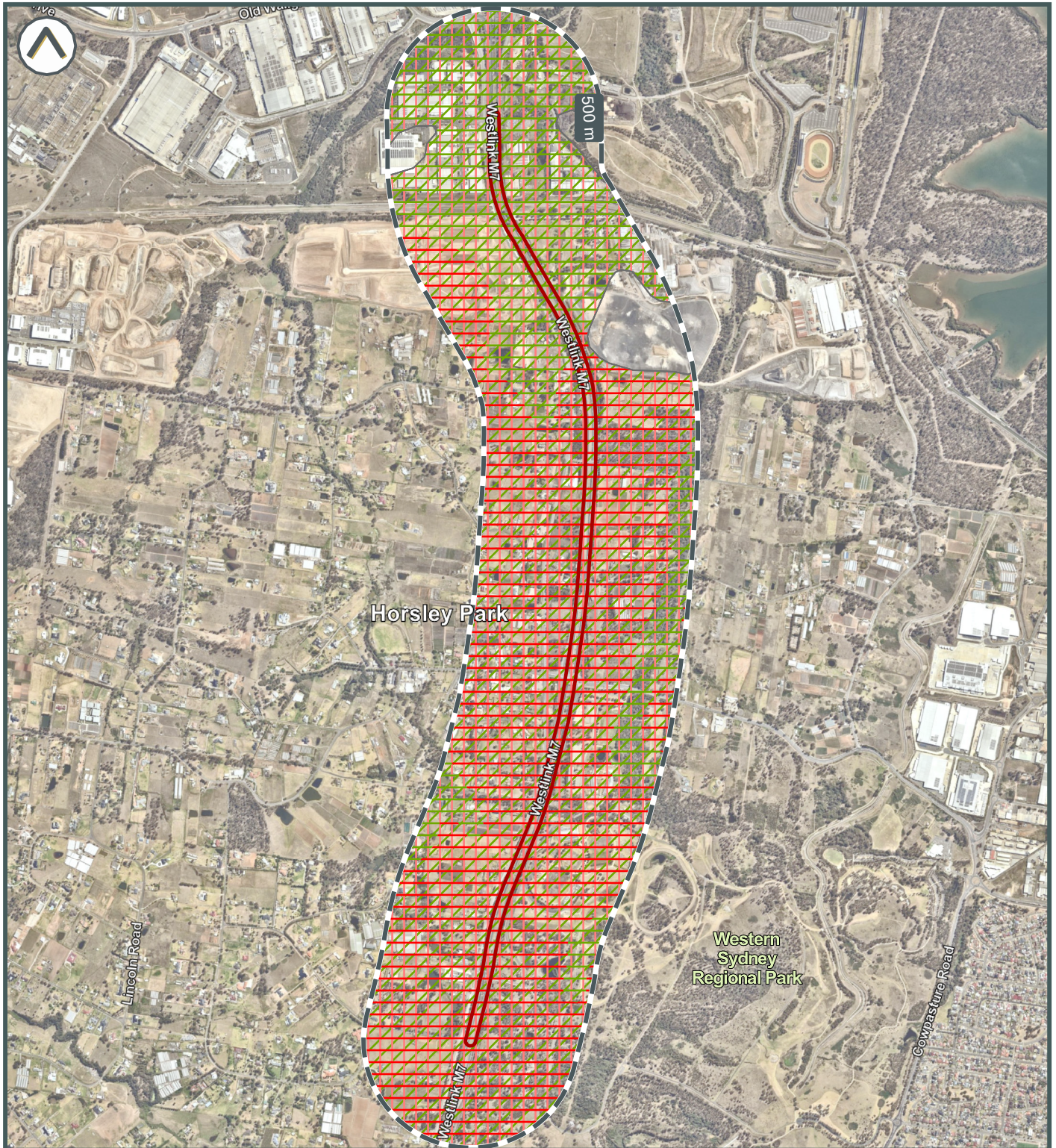


Flood Hazard





Erosion Hazard



- | | |
|-------------------------------|-------------------------------|
| Subject area | Not Applicable / Not Assessed |
| Wind Erosion Risk | Landslip Erosion Risk |
| Very Low | Very High |
| Not Applicable / Not Assessed | Very Low |
| Water Erosion Risk | Not Applicable / Not Assessed |
| High | |



APPENDIX D: PHOTOLOG

Site Details:	M7/M12 Integration Project - Redmayne Road, Elizabeth Hills NSW 2171
EDP Reference:	S-05667.DSI.M7.007_Redmayne Road



Photo 1:
29/01/2024: Representative image of site location



Photo 2:
29/01/2024: Representative image of site location



Photo 3:
29/01/2024: Representative image of site location



Photo 4:
29/01/2024: Representative image of soil material (BH07)



Photo 5:
29/01/2024: Representative image of soil material (BH08)



Photo 6:
29/01/2024: Representative image of soil material (BH09)

Site Details:	M7/M12 Integration Project - Redmayne Road, Elizabeth Hills NSW 2171
EDP Reference:	S-05667.DSI.M7.007_Redmayne Road



Photo 7:
16/01/2024: Representative image of soil material (BH154)



Photo 8:
16/01/2024: Representative image of soil material (BH154)



Photo 9:
16/01/2024: Representative image of soil material (BH155)



Photo 10:
16/01/2024: Representative image of soil material (BH155)

End of Photographic Log

APPENDIX E: BOREHOLE LOGS

PROJECT NUMBER S-05667	DATE 02/02/2024	LOGGED BY LM
PROJECT NAME M7-M12 Integration Project	DRILLING METHOD Mechanical Hand Auger	CHECKED BY CF
CLIENT John Holland Group Pty Ltd	TOTAL DEPTH 1.0 m below ground level	
LOCATION Redmayne Road Bridge		

COMMENTS

Depth (m)	PID (ppm)	Samples	Is Analysed?	Graphic Log	Material Description	Moisture	Additional Observations
0.1					FILL: Sandy CLAY, low plasticity, light to dark brown with depth	MC<PL	No sign of contamination, such as, asbestos, visual impact or odours
0.2							
0.3							
0.4	0.5	M7.DSI.007.BH03_0.4	Y				
0.5							
0.6							
0.7							
0.8							
0.9							
1	0.4	M7.DSI.007.BH03_1.0	Y				
					Terminated at 1.0 mbgl at target depth		

PROJECT NUMBER S-05667	DATE 29/01/2024	LOGGED BY LM
PROJECT NAME M7-M12 Integration Project	DRILLING METHOD Mechanical Hand Auger	CHECKED BY CF
CLIENT John Holland Group Pty Ltd	TOTAL DEPTH 1.0 m below ground level	
LOCATION Redmayne Road Bridge		

COMMENTS

Depth (m)	PID (ppm)	Samples	Is Analysed?	Graphic Log	Material Description	Moisture	Additional Observations
0.1					FILL: Sandy CLAY low plasticity, light to dark brown with depth	MC<PL	visual anthropogenic, such as plastic, paint chipping, no asbestos, visual impact or odours were noted
0.2	0.5	M7.DSI.007.BH04-0.2	Y				
0.3							
0.4							
0.5							
0.6							
0.7							
0.8							
0.9							
1							
					Terminated at 1.0 mbgl at target depth		

PROJECT NUMBER S-05667	DATE 29/01/2024	LOGGED BY LM
PROJECT NAME M7-M12 Integration Project	DRILLING METHOD Mechanical Hand Auger	CHECKED BY CF
CLIENT John Holland Group Pty Ltd	TOTAL DEPTH 1.0 m below ground level	
LOCATION Redmayne Road Bridge		

COMMENTS

Depth (m)	PID (ppm)	Samples	Is Analysed?	Graphic Log	Material Description	Moisture	Additional Observations
0.1					FILL: Sandy CLAY, low plasticity, light to dark brown with depth	MC<PL	visual anthropogenic, such as plastic, paint chipping, no asbestos, visual impact or odours were noted
0.2	0.5	M7.DSI.007.BH07-0.2	Y				
0.3							
0.4							
0.5							
0.6							
0.7							
0.8							
0.9							
1	0.5	M7.DSI.007.BH07-1.0	Y		Terminated at 1.0 mbgl at target depth		

PROJECT NUMBER S-05667	DATE 29/01/2024	LOGGED BY LM
PROJECT NAME M7-M12 Integration Project	DRILLING METHOD Mechanical Hand Auger	CHECKED BY CF
CLIENT John Holland Group Pty Ltd	TOTAL DEPTH 1.0 m below ground level	
LOCATION Redmayne Road Bridge		

COMMENTS

Depth (m)	PID (ppm)	Samples	Is Analysed?	Graphic Log	Material Description	Moisture	Additional Observations
0.1					FILL: Sandy CLAY, low plasticity, light to dark brown with depth	MC<PL	visual anthropogenic, such as plastic, paint chipping, no asbestos, visual impact or odours were noted
0.2	0.5	M7.DSI.007.BH08-0.2	Y				
0.3							
0.4							
0.5							
0.6							
0.7							
0.8							
0.9							
1	0.5	M7.DSI.007.BH08-1.0	Y		Terminated at 1.0 mbgl at target depth		

PROJECT NUMBER S-05667	DATE 29/01/2024	LOGGED BY LM
PROJECT NAME M7-M12 Integration Project	DRILLING METHOD Mechanical Hand Auger	CHECKED BY CF
CLIENT John Holland Group Pty Ltd	TOTAL DEPTH 1.0 m below ground level	
LOCATION Redmayne Road Bridge		

COMMENTS

Depth (m)	PID (ppm)	Samples	Is Analysed?	Graphic Log	Material Description	Moisture	Additional Observations
0.1					FILL: Sandy CLAY, low plasticity, light to dark brown with depth	MC<PL	visual anthropogenic, such as plastic, paint chipping, no asbestos, visual impact or odours were noted
0.2	0.5	M7.DSI.007.BH09-0.2	Y				
0.3							
0.4							
0.5							
0.6							
0.7							
0.8							
0.9							
1	0.5	M7.DSI.007.BH09-1.0	Y		Terminated at 1.0 mbgl at target depth		

PROJECT NUMBER S-05667	DATE 29/01/2024	LOGGED BY LM
PROJECT NAME M7-M12 Integration Project	DRILLING METHOD Mechanical Hand Auger	CHECKED BY CF
CLIENT John Holland Group Pty Ltd	TOTAL DEPTH 1.0 m below ground level	
LOCATION Redmayne Road Bridge		

COMMENTS

Depth (m)	PID (ppm)	Samples	Is Analysed?	Graphic Log	Material Description	Moisture	Additional Observations
0.1					FILL: Sandy CLAY, low plasticity, light to dark brown with depth	MC<PL	visual anthropogenic, such as plastic, paint chipping, no asbestos, visual impact or odours were noted
0.2	0.5	M7.DSI.007.BH10-0.2	Y				
0.3							
0.4							
0.5							
0.6							
0.7							
0.8							
0.9							
1	0.5	M7.DSI.007.BH10-1.0	Y		Terminated at 1.0 mbgl at target depth		

PROJECT NUMBER S-05667	DATE 16/01/2024	LOGGED BY OD
PROJECT NAME M7-M12 Integration Project	DRILLING METHOD	CHECKED BY CF
CLIENT John Holland Group Pty Ltd	TOTAL DEPTH 2.0 m below ground level (mbgl)	
LOCATION Redmayne Road Bridge		

COMMENTS									
Depth (m)	PID (ppm)	pH	pH-fox	Samples	Is Analysed?	Graphic Log	Material Description	Moisture	Additional Observations
0.0				DSI.M7.BH154_0.1	N		TOPSOIL: Silty CLAY trace sand, low plasticity, dark brown, fine-grained sand, presence of rootlets	MC=PL	No visible signs of contamination. No Asbestos, Odour or Staining.
							FILL: Gravelly SILT with sand: dark brown	MC=PL	
0.5	0.3			DSI.M7.BH154_0.5	Y				
1	0.2			DSI.M7.BH154_1.0	Y		NATURAL: Silty CLAY: medium plasticity, orange-brown mottled red/grey	MC<PL	RESIDUAL SOIL
1.5	0.2			DSI.M7.BH154_1.5	Y				
2	0.5			DSI.M7.BH154_2.0	Y				BEDROCK - SILTSTONE
							Terminated @ 2.0mbgl - Bedrock		
2.5									

PROJECT NUMBER S-05667	DATE 16/01/2024	LOGGED BY LM
PROJECT NAME M7-M12 Integration Project	DRILLING METHOD	CHECKED BY CF
CLIENT John Holland Group Pty Ltd	TOTAL DEPTH 3.0 m below ground level (mbgl)	
LOCATION Redmayne Road Bridge		

COMMENTS									
Depth (m)	PID (ppm)	pH	pH-fox	Samples	Is Analysed?	Graphic Log	Material Description	Moisture	Additional Observations
0.0	0.0			DSI.M7.BH155_0.1	N		TOPSOIL: Silty CLAY trace sand, low plasticity, dark brown, fine-grained sand, presence of rootlets	MC=PL	No visible signs of contamination. No Asbestos, Odour or Staining.
							FILL: Gravelly SILT with sand: dark brown	MC=PL	
0.5	0.0			DSI.M7.BH155_0.5	Y				
1.0	0.2			DSI.M7.BH155_1.0	Y		NATURAL: Silty CLAY: medium plasticity, orange-brown mottled red/grey	MC<PL	RESIDUAL SOIL
1.5	0.1			DSI.M7.BH155_1.5	Y				
2.0	0.3			DSI.M7.BH155_2.0	Y				
2.5	0.4			DSI.M7.BH155_2.5	Y				
3.0	0.5			DSI.M7.BH155_3.0	Y		NATURAL: SILTSTONE: dark grey, laminated		BEDROCK - SILTSTONE
							Terminated @ 3.0mbgl - Bedrock		

APPENDIX F: NATA ACCREDITED LABORATORY REPORTS

Luong, Thi Song Van (Sydney)

From: Omar Dalvai <Omar.Dalvai@edp-au.com>
Sent: Thursday, 18 January 2024 3:24 PM
To: AU.SampleReceipt.Sydney, AU (Sydney); AU.Environmental.Sydney, AU (Sydney)
Cc: Cristiane Florido; Lucy Mercer
Subject: RE: [EXTERNAL] S-05667.056 CoC

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments. ***

Hi Michael,

Yes please, apologies for not including in original CoC.

Do you want me to add and then send over an updated CoC?

Kind Regards,

Omar Dalvai
Environmental Consultant



☎ [0493 694 744](tel:0493694744)
☎ [02 8484 5810](tel:0284845810)
✉ Omar.Dalvai@edp-au.com
📍 [Sydney](#) | [Newcastle](#) | [Brisbane](#) | [Melbourne](#) | [Adelaide](#)

Have feedback for us, please let us know?

We acknowledge the traditional custodians of the many Indigenous nations, and pay our respects to Elders past, present and emerging.

Please consider the environment before printing. The contents of this email are strictly private and confidential and are intended solely for the named addressee[s] only. If you are not the intended recipient, you should not copy it or use it for any purpose nor disclose its contents to any other person and you should return this message to the sender and delete it from your mailbox. The views and opinions expressed in this email do not necessarily represent those of EDP. Please note that whilst we do check for viruses, it is the responsibility of the recipient to scan all messages prior to opening them.

From: AU.SampleReceipt.Sydney, AU (Sydney) <AU.SampleReceipt.Sydney@sgs.com>
Sent: Thursday, January 18, 2024 3:22 PM
To: Omar Dalvai <Omar.Dalvai@edp-au.com>; AU.Environmental.Sydney, AU (Sydney) <AU.Environmental.Sydney@sgs.com>
Cc: Cristiane Florido <Cristiane.Florido@edp-au.com>; Lucy Mercer <Lucy.Mercer@edp-au.com>
Subject: Re: [EXTERNAL] S-05667.056 CoC

Hi Omar,

We received a TS and TB which were not listed on the COC. Do you need these tested as well? They've been put on Hold in the meantime.



SAMPLE RECEIPT ADVICE

SE259300

CLIENT DETAILS

Contact Gonzalo Diaz
Client EDP CONSULTANTS PTY LTD
Address LEVEL 4, 38 OXLEY STREET
ST LEONARDS NSW 2065

Telephone 61 2 84845810
Facsimile (Not specified)
Email gonzalo.serna.diaz@edp-au.com

Project **S-05667.055**
Order Number **S-05667.055**
Samples 15

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Thu 18/1/2024
Report Due Thu 25/1/2024
SGS Reference **SE259300**

SUBMISSION DETAILS

This is to confirm that 15 samples were received on Thursday 18/1/2024. Results are expected to be ready by COB Thursday 25/1/2024. Please quote SGS reference SE259300 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	15 Soil	Type of documentation received	COC
Date documentation received	18/1/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	1.6°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420. Report No.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



SAMPLE RECEIPT ADVICE

SE259300

CLIENT DETAILS

Client EDP CONSULTANTS PTY LTD

Project S-05667.055

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Soil	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	EDP-M7.DSI.BH240_0.5	2	30	14	26	11	10	11	7
002	EDP-M7.DSI.BH240_2.0	2	-	-	26	-	10	11	7
003	EDP-M7.DSI.BH240_3.5	2	-	-	26	-	10	11	7
004	EDP-M7.DSI.BH240_6.0	2	-	-	26	-	10	11	7
005	EDP-M7.DSI.BH240_9.0	2	-	-	26	-	10	11	7
006	EDP-M7.DSI.BH154_0.5	2	30	14	26	11	10	11	7
007	EDP-M7.DSI.BH154_1.0	2	30	14	26	11	10	11	7
008	EDP-M7.DSI.BH154_1.5	2	-	-	26	-	10	11	7
009	EDP-M7.DSI.BH154_2.0	2	-	-	26	-	10	11	7
010	EDP-M7.DSI.BH155_0.5	2	30	14	26	11	10	11	7
011	EDP-M7.DSI.BH155_1.0	2	30	14	26	11	10	11	7
012	EDP-M7.DSI.BH155_1.5	2	-	-	26	-	10	11	7
013	EDP-M7.DSI.BH155_2.0	2	-	-	26	-	10	11	7
014	EDP-M7.DSI.BH155_2.5	2	-	-	26	-	10	11	7
015	EDP-M7.DSI.BH155_3.0	2	-	-	26	-	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE259300

CLIENT DETAILS

Client EDP CONSULTANTS PTY LTD

Project S-05667.055

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	Per- and Polyfluoroalkyl Substances (PFAS) in	Total Recoverable Elements in Soil/Waste
001	EDP-M7.DSI.BH240_0.5	3	1	1	23	7
002	EDP-M7.DSI.BH240_2.0	-	1	1	-	7
003	EDP-M7.DSI.BH240_3.5	-	1	1	-	7
004	EDP-M7.DSI.BH240_6.0	-	1	1	-	7
005	EDP-M7.DSI.BH240_9.0	-	1	1	-	7
006	EDP-M7.DSI.BH154_0.5	3	1	1	23	7
007	EDP-M7.DSI.BH154_1.0	3	1	1	23	7
008	EDP-M7.DSI.BH154_1.5	-	1	1	-	7
009	EDP-M7.DSI.BH154_2.0	-	1	1	-	7
010	EDP-M7.DSI.BH155_0.5	3	1	1	23	7
011	EDP-M7.DSI.BH155_1.0	3	1	1	23	7
012	EDP-M7.DSI.BH155_1.5	-	1	1	-	7
013	EDP-M7.DSI.BH155_2.0	-	1	1	-	7
014	EDP-M7.DSI.BH155_2.5	-	1	1	-	7
015	EDP-M7.DSI.BH155_3.0	-	1	1	-	7

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CHAIN OF CUSTODY RECORD

COC#: SE259300

Owner job:

Ship to: XML	Project Name:	Due date: 25/01/2024 1:00:00 PM
	Client: EDP CONSULTANTS PTY LT 42565904_18072267	Send Results to: AUIENVSE
	Sampler Name: Omar D	
Carrier:	Airbill #:	

[illegible]

Sample Condition Upon Receipt at Laboratory:	Cooler temperature:
Special Instructions/Comments:	
Job Booked by: RY 18/1	
Loggin Checked by:	

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date:	#3 Released by: (Sig)	Date:
Company Name:	Time	Company Name:	Time	Company Name:	Time
#1 Received by: (Sig)	Date	#2 Received by: (Sig)	Date	#3 Received by: (Sig)	Date
Company Name:	Time	Company Name:	Time	Company Name:	Time

CLIENT DETAILS

Contact Gonzalo Diaz
Client EDP CONSULTANTS PTY LTD
Address LEVEL 4, 38 OXLEY STREET
ST LEONARDS NSW 2065

Telephone 61 2 84845810
Facsimile (Not specified)
Email gonzalo.serna.diaz@edp-au.com

Project **S-05667.055**
Order Number **S-05667.055**
Samples 17

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

SGS Reference **SE259300 R0**
Date Received 18/1/2024
Date Reported 29/1/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420. Report No. ME345954.

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

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VOC's in Soil [AN433] Tested: 19/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_
			.5	.0	.5	.0	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.001	SE259300.002	SE259300.003	SE259300.004	SE259300.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH155_
			.5	.0	.5	.0	.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.006	SE259300.007	SE259300.008	SE259300.009	SE259300.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_
			.0	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.011	SE259300.012	SE259300.013	SE259300.014	SE259300.015
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TB_20240116	TS_20240116
			SOIL	SOIL
			-	-
			16/1/2024	16/1/2024
			SE259300.016	SE259300.017
Benzene	mg/kg	0.1	<0.1	[116%]
Toluene	mg/kg	0.1	<0.1	[95%]
Ethylbenzene	mg/kg	0.1	<0.1	[81%]
m/p-xylene	mg/kg	0.2	<0.2	[82%]
o-xylene	mg/kg	0.1	<0.1	[82%]
Total Xylenes*	mg/kg	0.3	<0.3	-
Total BTEX*	mg/kg	0.6	<0.6	-
Naphthalene (VOC)*	mg/kg	0.1	<0.1	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 19/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_
			.5	.0	.5	.0	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.001	SE259300.002	SE259300.003	SE259300.004	SE259300.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH155_
			.5	.0	.5	.0	.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.006	SE259300.007	SE259300.008	SE259300.009	SE259300.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_
			.0	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.011	SE259300.012	SE259300.013	SE259300.014	SE259300.015
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TB_20240116
			SOIL
			-
			16/1/2024
			SE259300.016
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 19/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_
			.5	.0	.5	.0	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.001	SE259300.002	SE259300.003	SE259300.004	SE259300.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH155_
			.5	.0	.5	.0	.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.006	SE259300.007	SE259300.008	SE259300.009	SE259300.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	120	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	270	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	210	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	260	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	330	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	390	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	590	<210	<210	<210	<210

PARAMETER	UOM	LOR	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_
			.0	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.011	SE259300.012	SE259300.013	SE259300.014	SE259300.015
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210



ANALYTICAL RESULTS

SE259300 R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 19/1/2024 (continued)

			TB_20240116
			SOIL
			-
			16/1/2024
PARAMETER	UOM	LOR	SE259300.016
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 19/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_
			.5	.0	.5	.0	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.001	SE259300.002	SE259300.003	SE259300.004	SE259300.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH155_
			.5	.0	.5	.0	.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.006	SE259300.007	SE259300.008	SE259300.009	SE259300.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	1.2	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.2	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 19/1/2024 (continued)

PARAMETER	UOM	LOR	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_
			.0	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.011	SE259300.012	SE259300.013	SE259300.014	SE259300.015
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 19/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240	EDP-M7.DSI.BH154	EDP-M7.DSI.BH154	EDP-M7.DSI.BH155	EDP-M7.DSI.BH155
			.5 SOIL	.5 SOIL	.0 SOIL	.5 SOIL	.0 SOIL
			16/1/2024 SE259300.001	16/1/2024 SE259300.006	16/1/2024 SE259300.007	16/1/2024 SE259300.010	16/1/2024 SE259300.011
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 19/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240	EDP-M7.DSI.BH154	EDP-M7.DSI.BH154	EDP-M7.DSI.BH155	EDP-M7.DSI.BH155
			.5	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.001	SE259300.006	SE259300.007	SE259300.010	SE259300.011
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7



ANALYTICAL RESULTS

SE259300 R0

PCBs in Soil [AN420] Tested: 19/1/2024

			EDP-M7.DSI.BH240_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_
			.5 SOIL -	.5 SOIL -	.0 SOIL -	.5 SOIL -	.0 SOIL -
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
PARAMETER	UOM	LOR	SE259300.001	SE259300.006	SE259300.007	SE259300.010	SE259300.011
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

Conductivity and TDS by Calculation - Soil [AN106] Tested: 24/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_
			.5	.0	.5	.0	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.001	SE259300.002	SE259300.003	SE259300.004	SE259300.005
Conductivity of Extract (1:5 as received)	µS/cm	1	520	610	700	450	480
Salinity (by calculation)*	mg/kg	5	1900	2400	2700	1900	2000

PARAMETER	UOM	LOR	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH155_
			.5	.0	.5	.0	.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.006	SE259300.007	SE259300.008	SE259300.009	SE259300.010
Conductivity of Extract (1:5 as received)	µS/cm	1	250	160	270	220	390
Salinity (by calculation)*	mg/kg	5	910	560	1000	850	1400

PARAMETER	UOM	LOR	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_
			.0	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.011	SE259300.012	SE259300.013	SE259300.014	SE259300.015
Conductivity of Extract (1:5 as received)	µS/cm	1	200	500	470	460	470
Salinity (by calculation)*	mg/kg	5	730	2000	1900	1800	1800

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 19/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_
			.5	.0	.5	.0	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.001	SE259300.002	SE259300.003	SE259300.004	SE259300.005
Arsenic, As	mg/kg	1	6	6	4	8	7
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	10	9.5	18	13
Copper, Cu	mg/kg	0.5	23	19	13	30	23
Lead, Pb	mg/kg	1	15	11	12	25	17
Nickel, Ni	mg/kg	0.5	13	7.2	7.0	16	18
Zinc, Zn	mg/kg	2	42	30	28	70	72

PARAMETER	UOM	LOR	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH155_
			.5	.0	.5	.0	.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.006	SE259300.007	SE259300.008	SE259300.009	SE259300.010
Arsenic, As	mg/kg	1	2	2	9	4	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	23	12	20	10	54
Copper, Cu	mg/kg	0.5	20	4.1	22	16	19
Lead, Pb	mg/kg	1	11	10	25	9	8
Nickel, Ni	mg/kg	0.5	36	9.5	10	7.4	30
Zinc, Zn	mg/kg	2	41	25	42	29	54

PARAMETER	UOM	LOR	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_
			.0	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.011	SE259300.012	SE259300.013	SE259300.014	SE259300.015
Arsenic, As	mg/kg	1	4	7	6	7	8
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	14	14	12	17	12
Copper, Cu	mg/kg	0.5	28	16	19	25	30
Lead, Pb	mg/kg	1	13	22	12	19	11
Nickel, Ni	mg/kg	0.5	17	4.9	6.8	7.1	8.5
Zinc, Zn	mg/kg	2	58	28	37	42	42



ANALYTICAL RESULTS

SE259300 R0

Mercury in Soil [AN312] Tested: 19/1/2024

			EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH240_
			.5	.0	.5	.0	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
PARAMETER	UOM	LOR	SE259300.001	SE259300.002	SE259300.003	SE259300.004	SE259300.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH155_
			.5	.0	.5	.0	.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
PARAMETER	UOM	LOR	SE259300.006	SE259300.007	SE259300.008	SE259300.009	SE259300.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_
			.0	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
PARAMETER	UOM	LOR	SE259300.011	SE259300.012	SE259300.013	SE259300.014	SE259300.015
Mercury	mg/kg	0.05	0.10	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 19/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240	EDP-M7.DSI.BH240	EDP-M7.DSI.BH240	EDP-M7.DSI.BH240	EDP-M7.DSI.BH240
			.5	.0	.5	.0	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.001	SE259300.002	SE259300.003	SE259300.004	SE259300.005
% Moisture	%w/w	1	9.6	16.4	17.2	24.6	22.7

PARAMETER	UOM	LOR	EDP-M7.DSI.BH154	EDP-M7.DSI.BH154	EDP-M7.DSI.BH154	EDP-M7.DSI.BH154	EDP-M7.DSI.BH155
			.5	.0	.5	.0	.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.006	SE259300.007	SE259300.008	SE259300.009	SE259300.010
% Moisture	%w/w	1	10.1	9.5	14.5	16.1	10.2

PARAMETER	UOM	LOR	EDP-M7.DSI.BH155	EDP-M7.DSI.BH155	EDP-M7.DSI.BH155	EDP-M7.DSI.BH155	EDP-M7.DSI.BH155
			.0	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.011	SE259300.012	SE259300.013	SE259300.014	SE259300.015
% Moisture	%w/w	1	9.4	18.0	17.6	17.8	15.8

PARAMETER	UOM	LOR	TB_20240116
			SOIL
			-
			16/1/2024
			SE259300.016
% Moisture	%w/w	1	<1.0



ANALYTICAL RESULTS

SE259300 R0

Fibre Identification in soil [AS4964/AN602] Tested: 23/1/2024

			EDP-M7.DSI.BH240	EDP-M7.DSI.BH154	EDP-M7.DSI.BH154	EDP-M7.DSI.BH155	EDP-M7.DSI.BH155
			.5 SOIL - 16/1/2024 SE259300.001	.5 SOIL - 16/1/2024 SE259300.006	.0 SOIL - 16/1/2024 SE259300.007	.5 SOIL - 16/1/2024 SE259300.010	.0 SOIL - 16/1/2024 SE259300.011
PARAMETER	UOM	LOR					
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	24/01/2024 00:00	24/01/2024 00:00	24/01/2024 00:00	24/01/2024 00:00	24/01/2024 00:00

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 29/1/2024

PARAMETER	UOM	LOR	EDP-M7.DSI.BH240_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH154_	EDP-M7.DSI.BH155_	EDP-M7.DSI.BH155_
			.5	.5	.0	.5	.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/1/2024	16/1/2024	16/1/2024	16/1/2024	16/1/2024
			SE259300.001	SE259300.006	SE259300.007	SE259300.010	SE259300.011
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	0.0024	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	0.011	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	0.030	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	0.013	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.032	<0.0008	0.0010	<0.0008	<0.0008
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016

METHOD

METHODOLOGY SUMMARY

AN002

The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.

AN040/AN320

A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.

AN040

A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.

AN106

Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$ @ 25°C. For soils, an extract of as received sample with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.

AN312

Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500

AN403

Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.

AN403

Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.

AN403

The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.

AN420

(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

Total PAH calculated from individual analyte detections at or above the limit of reporting.

AN420

SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

AN433

VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

AN602/AS4964

Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.

AN602/AS4964

Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.

AN602/AS4964

AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

AN602/AS4964

The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if-

- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres);
- (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and
- (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

MA-1523

This method covers the analysis of per- and polyfluoroalkyl substances (PFAS) in aqueous, solid and biosolid samples and solvent extracts, determined as the total of linear and branched isomers. After spiking with isotopically labelled quantification surrogates and clean-up via SPE cartridges sample extracts are analysed by liquid chromatography/mass spectrometry (LC-MS/MS). PFAS concentrations are determined by isotope dilution quantification.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- a. 1 Bq is equivalent to 27 pCi
- b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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STATEMENT OF QA/QC PERFORMANCE

SE259300 R0

CLIENT DETAILS

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Project **S-05667.055**
Order Number **S-05667.055**
Samples **17**

LABORATORY DETAILS

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SGS Reference **SE259300 R0**
Date Received **18 Jan 2024**
Date Reported **29 Jan 2024**

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	Conductivity and TDS by Calculation - Soil	15 items
Analysis Date	Conductivity and TDS by Calculation - Soil	15 items
Surrogate	VOC's in Soil	5 items
	Volatile Petroleum Hydrocarbons in Soil	5 items
Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	2 items
	VOC's in Soil	1 item
	Volatile Petroleum Hydrocarbons in Soil	1 item

SAMPLE SUMMARY

Sample counts by matrix	17 Soil	Type of documentation received	COC
Date documentation received	18/1/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	1.6°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes		



HOLDING TIME SUMMARY

SE259300 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-ENVJAN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH240_2.0	SE259300.002	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH240_3.5	SE259300.003	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH240_6.0	SE259300.004	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH240_9.0	SE259300.005	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH154_0.5	SE259300.006	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH154_1.0	SE259300.007	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH154_1.5	SE259300.008	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH154_2.0	SE259300.009	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH155_0.5	SE259300.010	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH155_1.0	SE259300.011	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH155_1.5	SE259300.012	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH155_2.0	SE259300.013	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH155_2.5	SE259300.014	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†
EDP-M7.DSI.BH155_3.0	SE259300.015	LB302148	16 Jan 2024	18 Jan 2024	23 Jan 2024	24 Jan 2024†	23 Jan 2024	24 Jan 2024†

Fibre Identification in soil

Method: ME-(AU)-ENVJAS4964/AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB302000	16 Jan 2024	18 Jan 2024	15 Jan 2025	23 Jan 2024	15 Jan 2025	25 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB302000	16 Jan 2024	18 Jan 2024	15 Jan 2025	23 Jan 2024	15 Jan 2025	25 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB302000	16 Jan 2024	18 Jan 2024	15 Jan 2025	23 Jan 2024	15 Jan 2025	25 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB302000	16 Jan 2024	18 Jan 2024	15 Jan 2025	23 Jan 2024	15 Jan 2025	25 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB302000	16 Jan 2024	18 Jan 2024	15 Jan 2025	23 Jan 2024	15 Jan 2025	25 Jan 2024

Mercury in Soil

Method: ME-(AU)-ENVJAN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301677	16 Jan 2024	18 Jan 2024	13 Feb 2024	19 Jan 2024	13 Feb 2024	23 Jan 2024

Moisture Content

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024
TB_20240116	SE259300.016	LB301705	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	24 Jan 2024	23 Jan 2024



HOLDING TIME SUMMARY

SE259300 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
TB_20240116	SE259300.016	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
TB_20240116	SE259300.016	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
TB_20240116	SE259300.016	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024



HOLDING TIME SUMMARY

SE259300 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

PCBs in Soil (continued)

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024
TB_20240116	SE259300.016	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	24 Jan 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-ENVJAN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301675	16 Jan 2024	18 Jan 2024	14 Jul 2024	19 Jan 2024	14 Jul 2024	23 Jan 2024

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024
TB_20240116	SE259300.016	LB301678	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	28 Feb 2024	23 Jan 2024

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024



HOLDING TIME SUMMARY

SE259300 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
TB_20240116	SE259300.016	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
TS_20240116	SE259300.017	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-M7.DSI.BH240_0.5	SE259300.001	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_2.0	SE259300.002	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_3.5	SE259300.003	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_6.0	SE259300.004	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH240_9.0	SE259300.005	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_0.5	SE259300.006	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.0	SE259300.007	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_1.5	SE259300.008	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH154_2.0	SE259300.009	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_0.5	SE259300.010	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.0	SE259300.011	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_1.5	SE259300.012	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.0	SE259300.013	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_2.5	SE259300.014	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
EDP-M7.DSI.BH155_3.0	SE259300.015	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
TB_20240116	SE259300.016	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	23 Jan 2024
TS_20240116	SE259300.017	LB301679	16 Jan 2024	18 Jan 2024	30 Jan 2024	19 Jan 2024	30 Jan 2024	24 Jan 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	100
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	101
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	101
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	98
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	97

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	103
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	100
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	103
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	101
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	102
d14-p-terphenyl (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	106
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	105
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	103
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	106
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	106

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	70 - 130%	103
	EDP-M7.DSI.BH240_2.0	SE259300.002	%	70 - 130%	98
	EDP-M7.DSI.BH240_3.5	SE259300.003	%	70 - 130%	99
	EDP-M7.DSI.BH240_6.0	SE259300.004	%	70 - 130%	102
	EDP-M7.DSI.BH240_9.0	SE259300.005	%	70 - 130%	102
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	70 - 130%	100
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	70 - 130%	103
	EDP-M7.DSI.BH154_1.5	SE259300.008	%	70 - 130%	94
	EDP-M7.DSI.BH154_2.0	SE259300.009	%	70 - 130%	97
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	70 - 130%	101
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	70 - 130%	102
	EDP-M7.DSI.BH155_1.5	SE259300.012	%	70 - 130%	99
	EDP-M7.DSI.BH155_2.0	SE259300.013	%	70 - 130%	99
	EDP-M7.DSI.BH155_2.5	SE259300.014	%	70 - 130%	99
	EDP-M7.DSI.BH155_3.0	SE259300.015	%	70 - 130%	101
	EDP-M7.DSI.BH240_0.5	SE259300.001	%	70 - 130%	106
	EDP-M7.DSI.BH240_2.0	SE259300.002	%	70 - 130%	105
d14-p-terphenyl (Surrogate)	EDP-M7.DSI.BH240_3.5	SE259300.003	%	70 - 130%	105
	EDP-M7.DSI.BH240_6.0	SE259300.004	%	70 - 130%	106
	EDP-M7.DSI.BH240_9.0	SE259300.005	%	70 - 130%	106
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	70 - 130%	105
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	70 - 130%	103
	EDP-M7.DSI.BH154_1.5	SE259300.008	%	70 - 130%	102
	EDP-M7.DSI.BH154_2.0	SE259300.009	%	70 - 130%	104
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	70 - 130%	106
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	70 - 130%	106
	EDP-M7.DSI.BH155_1.5	SE259300.012	%	70 - 130%	103
	EDP-M7.DSI.BH155_2.0	SE259300.013	%	70 - 130%	105
	EDP-M7.DSI.BH155_2.5	SE259300.014	%	70 - 130%	106
	EDP-M7.DSI.BH155_3.0	SE259300.015	%	70 - 130%	106
	EDP-M7.DSI.BH240_0.5	SE259300.001	%	70 - 130%	107
	EDP-M7.DSI.BH240_2.0	SE259300.002	%	70 - 130%	104
	EDP-M7.DSI.BH240_3.5	SE259300.003	%	70 - 130%	103
d5-nitrobenzene (Surrogate)	EDP-M7.DSI.BH240_6.0	SE259300.004	%	70 - 130%	109
	EDP-M7.DSI.BH240_9.0	SE259300.005	%	70 - 130%	105
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	70 - 130%	105
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	70 - 130%	112
	EDP-M7.DSI.BH154_1.5	SE259300.008	%	70 - 130%	103
	EDP-M7.DSI.BH154_2.0	SE259300.009	%	70 - 130%	105
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	70 - 130%	112
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	70 - 130%	112

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	EDP-M7.DSI.BH155_1.5	SE259300.012	%	70 - 130%	109
	EDP-M7.DSI.BH155_2.0	SE259300.013	%	70 - 130%	109
	EDP-M7.DSI.BH155_2.5	SE259300.014	%	70 - 130%	106
	EDP-M7.DSI.BH155_3.0	SE259300.015	%	70 - 130%	106

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	99
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	101
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	101
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	97
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	97

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	EDP-M7.DSI.BH240_0.5	SE259300.001	%	0 - 150%	132
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	0 - 150%	105
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	0 - 150%	104
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	0 - 150%	110
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	0 - 150%	110
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	EDP-M7.DSI.BH240_0.5	SE259300.001	%	0 - 150%	103
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	0 - 150%	105
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	0 - 150%	88
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	0 - 150%	100
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	0 - 150%	91
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	EDP-M7.DSI.BH240_0.5	SE259300.001	%	0 - 150%	98
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	0 - 150%	95
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	0 - 150%	109
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	0 - 150%	100
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	0 - 150%	95
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	EDP-M7.DSI.BH240_0.5	SE259300.001	%	0 - 150%	99
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	0 - 150%	94
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	0 - 150%	97
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	0 - 150%	99
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	0 - 150%	96
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	EDP-M7.DSI.BH240_0.5	SE259300.001	%	0 - 150%	105
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	0 - 150%	97
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	0 - 150%	114
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	0 - 150%	104
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	0 - 150%	95
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	EDP-M7.DSI.BH240_0.5	SE259300.001	%	0 - 150%	127
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	0 - 150%	108
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	0 - 150%	124
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	0 - 150%	113
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	0 - 150%	114
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	EDP-M7.DSI.BH240_0.5	SE259300.001	%	0 - 150%	99
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	0 - 150%	94
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	0 - 150%	95
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	0 - 150%	97
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	0 - 150%	97
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	EDP-M7.DSI.BH240_0.5	SE259300.001	%	0 - 150%	92
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	0 - 150%	83
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	0 - 150%	91
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	0 - 150%	90
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	0 - 150%	103

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	77
	EDP-M7.DSI.BH240_2.0	SE259300.002	%	60 - 130%	71
	EDP-M7.DSI.BH240_3.5	SE259300.003	%	60 - 130%	71
	EDP-M7.DSI.BH240_6.0	SE259300.004	%	60 - 130%	89

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	EDP-M7.DSI.BH240_9.0	SE259300.005	%	60 - 130%	100
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	80
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	88
	EDP-M7.DSI.BH154_1.5	SE259300.008	%	60 - 130%	89
	EDP-M7.DSI.BH154_2.0	SE259300.009	%	60 - 130%	76
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	97
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	93
	EDP-M7.DSI.BH155_1.5	SE259300.012	%	60 - 130%	101
	EDP-M7.DSI.BH155_2.0	SE259300.013	%	60 - 130%	86
	EDP-M7.DSI.BH155_2.5	SE259300.014	%	60 - 130%	78
	EDP-M7.DSI.BH155_3.0	SE259300.015	%	60 - 130%	78
	TB_20240116	SE259300.016	%	60 - 130%	83
	TS_20240116	SE259300.017	%	60 - 130%	97
d4-1,2-dichloroethane (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	55 ①
	EDP-M7.DSI.BH240_2.0	SE259300.002	%	60 - 130%	83
	EDP-M7.DSI.BH240_3.5	SE259300.003	%	60 - 130%	63
	EDP-M7.DSI.BH240_6.0	SE259300.004	%	60 - 130%	84
	EDP-M7.DSI.BH240_9.0	SE259300.005	%	60 - 130%	88
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	87
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	86
	EDP-M7.DSI.BH154_1.5	SE259300.008	%	60 - 130%	87
	EDP-M7.DSI.BH154_2.0	SE259300.009	%	60 - 130%	83
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	94
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	92
	EDP-M7.DSI.BH155_1.5	SE259300.012	%	60 - 130%	100
	EDP-M7.DSI.BH155_2.0	SE259300.013	%	60 - 130%	79
	EDP-M7.DSI.BH155_2.5	SE259300.014	%	60 - 130%	102
	EDP-M7.DSI.BH155_3.0	SE259300.015	%	60 - 130%	115
	TB_20240116	SE259300.016	%	60 - 130%	86
	TS_20240116	SE259300.017	%	60 - 130%	104
d8-toluene (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	99
	EDP-M7.DSI.BH240_2.0	SE259300.002	%	60 - 130%	106
	EDP-M7.DSI.BH240_3.5	SE259300.003	%	60 - 130%	100
	EDP-M7.DSI.BH240_6.0	SE259300.004	%	60 - 130%	80
	EDP-M7.DSI.BH240_9.0	SE259300.005	%	60 - 130%	92
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	134 ①
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	83
	EDP-M7.DSI.BH154_1.5	SE259300.008	%	60 - 130%	84
	EDP-M7.DSI.BH154_2.0	SE259300.009	%	60 - 130%	133 ①
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	90
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	90
	EDP-M7.DSI.BH155_1.5	SE259300.012	%	60 - 130%	98
	EDP-M7.DSI.BH155_2.0	SE259300.013	%	60 - 130%	76
	EDP-M7.DSI.BH155_2.5	SE259300.014	%	60 - 130%	137 ①
	EDP-M7.DSI.BH155_3.0	SE259300.015	%	60 - 130%	102
	TB_20240116	SE259300.016	%	60 - 130%	135 ①
	TS_20240116	SE259300.017	%	60 - 130%	101

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	77
	EDP-M7.DSI.BH240_2.0	SE259300.002	%	60 - 130%	71
	EDP-M7.DSI.BH240_3.5	SE259300.003	%	60 - 130%	71
	EDP-M7.DSI.BH240_6.0	SE259300.004	%	60 - 130%	89
	EDP-M7.DSI.BH240_9.0	SE259300.005	%	60 - 130%	100
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	80
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	88
	EDP-M7.DSI.BH154_1.5	SE259300.008	%	60 - 130%	89
	EDP-M7.DSI.BH154_2.0	SE259300.009	%	60 - 130%	76
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	97
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	93

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	EDP-M7.DSI.BH155_1.5	SE259300.012	%	60 - 130%	101
	EDP-M7.DSI.BH155_2.0	SE259300.013	%	60 - 130%	86
	EDP-M7.DSI.BH155_2.5	SE259300.014	%	60 - 130%	78
	EDP-M7.DSI.BH155_3.0	SE259300.015	%	60 - 130%	78
	TB_20240116	SE259300.016	%	60 - 130%	83
d4-1,2-dichloroethane (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	55 Ⓢ
	EDP-M7.DSI.BH240_2.0	SE259300.002	%	60 - 130%	83
	EDP-M7.DSI.BH240_3.5	SE259300.003	%	60 - 130%	63
	EDP-M7.DSI.BH240_6.0	SE259300.004	%	60 - 130%	84
	EDP-M7.DSI.BH240_9.0	SE259300.005	%	60 - 130%	88
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	87
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	86
	EDP-M7.DSI.BH154_1.5	SE259300.008	%	60 - 130%	87
	EDP-M7.DSI.BH154_2.0	SE259300.009	%	60 - 130%	83
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	94
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	92
	EDP-M7.DSI.BH155_1.5	SE259300.012	%	60 - 130%	100
	EDP-M7.DSI.BH155_2.0	SE259300.013	%	60 - 130%	79
	EDP-M7.DSI.BH155_2.5	SE259300.014	%	60 - 130%	102
	EDP-M7.DSI.BH155_3.0	SE259300.015	%	60 - 130%	115
	TB_20240116	SE259300.016	%	60 - 130%	86
d8-toluene (Surrogate)	EDP-M7.DSI.BH240_0.5	SE259300.001	%	60 - 130%	99
	EDP-M7.DSI.BH240_2.0	SE259300.002	%	60 - 130%	106
	EDP-M7.DSI.BH240_3.5	SE259300.003	%	60 - 130%	100
	EDP-M7.DSI.BH240_6.0	SE259300.004	%	60 - 130%	80
	EDP-M7.DSI.BH240_9.0	SE259300.005	%	60 - 130%	92
	EDP-M7.DSI.BH154_0.5	SE259300.006	%	60 - 130%	134 Ⓢ
	EDP-M7.DSI.BH154_1.0	SE259300.007	%	60 - 130%	83
	EDP-M7.DSI.BH154_1.5	SE259300.008	%	60 - 130%	84
	EDP-M7.DSI.BH154_2.0	SE259300.009	%	60 - 130%	133 Ⓢ
	EDP-M7.DSI.BH155_0.5	SE259300.010	%	60 - 130%	90
	EDP-M7.DSI.BH155_1.0	SE259300.011	%	60 - 130%	90
	EDP-M7.DSI.BH155_1.5	SE259300.012	%	60 - 130%	98
	EDP-M7.DSI.BH155_2.0	SE259300.013	%	60 - 130%	76
	EDP-M7.DSI.BH155_2.5	SE259300.014	%	60 - 130%	137 Ⓢ
	EDP-M7.DSI.BH155_3.0	SE259300.015	%	60 - 130%	102
	TB_20240116	SE259300.016	%	60 - 130%	135 Ⓢ

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB302148.001	Conductivity of Extract (1:5 as received)	µS/cm	1	<1
	Salinity (by calculation)*	mg/kg	5	<5

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB301677.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB301678.001	Alpha BHC	mg/kg	0.1	<0.1
	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Lindane (gamma BHC)	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	Endrin aldehyde	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endrin ketone	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	92

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB301678.001	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	2-fluorobiphenyl (Surrogate)	%	-	104
	d14-p-terphenyl (Surrogate)	%	-	109
Surrogates				

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB301678.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB301678.001	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates			
	d5-nitrobenzene (Surrogate)	%	-	110
	2-fluorobiphenyl (Surrogate)	%	-	104
	d14-p-terphenyl (Surrogate)	%	-	109

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB301678.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
Surrogates	TCMX (Surrogate)	%	-	91

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB301675.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB301678.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB301679.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	111
		d8-toluene (Surrogate)	%	-	110
		Bromofluorobenzene (Surrogate)	%	-	114
	Totals	Total BTEX*	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result
LB301679.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259230.001	LB302148.022	Conductivity of Extract (1:5 as received)	µS/cm	1	670	720	30	7
SE259300.015	LB302148.021	Conductivity of Extract (1:5 as received)	µS/cm	1	470	420	30	10
		Salinity (by calculation)*	mg/kg	5	1800	1600	31	10

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259232.004	LB301677.024	Mercury	mg/kg	0.05	0.09	0.08	86	10
SE259300.010	LB301677.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259232.004	LB301705.022	% Moisture	%w/w	1	15.8	14.7	37	7
SE259300.010	LB301705.011	% Moisture	%w/w	1	10.2	10.5	40	3

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259232.004	LB301678.025	Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Total OC VIC EPA	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.16	30	4

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259232.004	LB301678.025	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methodathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259232.004	LB301678.025	Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
SE259300.010	LB301678.014	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259232.004	LB301678.025	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	146	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	0.4	0.7	48	38
		Anthracene	mg/kg	0.1	0.1	0.2	90	40
		Fluoranthene	mg/kg	0.1	1.3	1.6	37	20
		Pyrene	mg/kg	0.1	1.2	1.4	38	16
		Benzo(a)anthracene	mg/kg	0.1	0.5	0.7	47	19
		Chrysene	mg/kg	0.1	0.6	0.7	45	12
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.8	0.9	42	7
		Benzo(k)fluoranthene	mg/kg	0.1	0.4	0.4	57	6
		Benzo(a)pyrene	mg/kg	0.1	0.8	0.8	42	6
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.6	0.6	47	3
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	134	0
		Benzo(ghi)perylene	mg/kg	0.1	0.6	0.6	47	5
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	1.0	1.1	29	6
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	1.1	1.2	28	6
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	1.1	1.2	36	6
		Total PAH (18)	mg/kg	0.8	7.4	8.5	31	13
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.6	30	5
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
SE259300.010	LB301678.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	0.1	133	8
		1-methylnaphthalene	mg/kg	0.1	<0.1	0.1	141	1
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	0.1	131	5
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259300.010	LB301678.014	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	94	104 @
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	30	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259232.004	LB301678.025	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates						
		TCMX (Surrogate)	mg/kg	-	0	0	30	4

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259232.004	LB301675.024	Arsenic, As	mg/kg	1	7	6	45	9
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	195	0
		Chromium, Cr	mg/kg	0.5	18	17	33	3
		Copper, Cu	mg/kg	0.5	26	22	32	16
		Nickel, Ni	mg/kg	0.5	39	26	32	41 @
		Lead, Pb	mg/kg	1	100	78	31	24
		Zinc, Zn	mg/kg	2	76	70	33	9
SE259300.010	LB301675.014	Arsenic, As	mg/kg	1	2	2	83	33
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	54	40	31	30
		Copper, Cu	mg/kg	0.5	19	20	33	7
		Nickel, Ni	mg/kg	0.5	30	32	32	4
		Lead, Pb	mg/kg	1	8	6	45	34
		Zinc, Zn	mg/kg	2	54	34	35	46 @

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259232.004	LB301678.025	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
SE259300.010	LB301678.014	TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
		TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	183	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259300.010	LB301678.014	TRH F Bands	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE25932.003	LB301679.027	Monocyclic	Benzene	mg/kg	0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.6	50	1
			d8-toluene (Surrogate)	mg/kg	-	12.3	50	39
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.1	50	18
		Totals	Total BTEX*	mg/kg	0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	200	0
SE259300.010	LB301679.015	Monocyclic	Benzene	mg/kg	0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.4	50	51
			d8-toluene (Surrogate)	mg/kg	-	9.0	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	50	15
		Totals	Total BTEX*	mg/kg	0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE25932.003	LB301679.027	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.6	50	1
			d8-toluene (Surrogate)	mg/kg	-	12.3	50	39
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.1	50	18
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	200	0
SE259300.010	LB301679.015	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.4	50	51
			d8-toluene (Surrogate)	mg/kg	-	9.0	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	50	15
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302148.002	Conductivity of Extract (1:5 as received)	µS/cm	1	300	303	85 - 115	98

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301677.002	Mercury	mg/kg	0.05	0.21	0.2	80 - 120	103

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301678.002	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	99
	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	105
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	102
	Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	103
	Endrin	mg/kg	0.2	0.2	0.2	60 - 140	108
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	118
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	95

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301678.002	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	98
	Diazinon (Dimpylate)	mg/kg	0.5	2.0	2	60 - 140	99
	Dichlorvos	mg/kg	0.5	1.7	2	60 - 140	85
	Ethion	mg/kg	0.2	2.0	2	60 - 140	101
	Surrogates						
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	101
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	106

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301678.002	Naphthalene	mg/kg	0.1	4.3	4	60 - 140	108
	Acenaphthylene	mg/kg	0.1	4.3	4	60 - 140	108
	Acenaphthene	mg/kg	0.1	4.5	4	60 - 140	111
	Phenanthrene	mg/kg	0.1	4.5	4	60 - 140	111
	Anthracene	mg/kg	0.1	4.4	4	60 - 140	111
	Fluoranthene	mg/kg	0.1	4.5	4	60 - 140	114
	Pyrene	mg/kg	0.1	4.3	4	60 - 140	106
	Benzo(a)pyrene	mg/kg	0.1	4.5	4	60 - 140	113
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	107
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	101
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	106

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301678.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	92

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301675.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	111
	Cadmium, Cd	mg/kg	0.3	4.2	4.81	70 - 130	87
	Chromium, Cr	mg/kg	0.5	44	38.31	80 - 120	114
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	112
	Nickel, Ni	mg/kg	0.5	200	187	80 - 120	105
	Lead, Pb	mg/kg	1	92	89.9	80 - 120	103
	Zinc, Zn	mg/kg	2	290	273	80 - 120	105

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301678.002	TRH C10-C14	mg/kg	20	47	40	60 - 140	117
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	111
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	93

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301678.002	TRH F Bands	TRH >C10-C16	mg/kg	25	47	40	60 - 140
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301679.002	Monocyclic	Benzene	mg/kg	0.1	4.1	5	60 - 140
		Toluene	mg/kg	0.1	4.5	5	60 - 140
	Aromatic	Ethylbenzene	mg/kg	0.1	4.6	5	60 - 140
		m/p-xylene	mg/kg	0.2	9.3	10	60 - 140
		o-xylene	mg/kg	0.1	4.7	5	60 - 140
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.1	10	70 - 130
		d8-toluene (Surrogate)	mg/kg	-	11.7	10	70 - 130
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.4	10	70 - 130

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB301679.002	TRH C6-C10	TRH C6-C10	mg/kg	25	83	92.5	60 - 140
		TRH C6-C9	mg/kg	20	74	80	60 - 140
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.1	10	70 - 130
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.4	10	70 - 130
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	56	62.5	60 - 140

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259300.001	LB301678.004	Naphthalene	mg/kg	0.1	4.1	<0.1	4	103
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.0	<0.1	4	101
		Acenaphthene	mg/kg	0.1	4.3	<0.1	4	106
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.3	<0.1	4	107
		Anthracene	mg/kg	0.1	4.2	<0.1	4	105
		Fluoranthene	mg/kg	0.1	4.3	<0.1	4	108
		Pyrene	mg/kg	0.1	4.2	<0.1	4	105
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.2	<0.1	4	106
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.2	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.3	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.4	<0.3	-	-
		Total PAH (18)	mg/kg	0.8	34	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	107
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	101
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	105

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259300.001	LB301675.004	Arsenic, As	mg/kg	1	51	6	50	89
		Cadmium, Cd	mg/kg	0.3	42	<0.3	50	85
		Chromium, Cr	mg/kg	0.5	58	13	50	90
		Copper, Cu	mg/kg	0.5	67	23	50	88
		Nickel, Ni	mg/kg	0.5	54	13	50	82
		Lead, Pb	mg/kg	1	57	15	50	84
		Zinc, Zn	mg/kg	2	86	42	50	88

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259300.001	LB301678.004	TRH C10-C14	mg/kg	20	49	<20	40	117
		TRH C15-C28	mg/kg	45	50	<45	40	110
		TRH C29-C36	mg/kg	45	56	<45	40	93
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	160	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
	TRH F Bands	TRH >C10-C16	mg/kg	25	49	<25	40	116
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	49	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	101
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259300.001	LB301679.004	Monocyclic	Benzene	mg/kg	0.1	3.3	<0.1	5	65
		Aromatic	Toluene	mg/kg	0.1	3.8	<0.1	5	75
			Ethylbenzene	mg/kg	0.1	4.2	<0.1	5	85
			m/p-xylene	mg/kg	0.2	8.7	<0.2	10	86
			o-xylene	mg/kg	0.1	4.5	<0.1	5	89
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	5.5	10	91
			d8-toluene (Surrogate)	mg/kg	-	9.0	9.9	10	90
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.8	7.7	10	98
		Totals	Total BTEX*	mg/kg	0.6	24	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	13	<0.3	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259300.001	LB301679.004	TRH C6-C10	mg/kg	25	77	<25	92.5	83
		TRH C6-C9	mg/kg	20	68	<20	80	85
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	5.5	10	91
		d8-toluene (Surrogate)	mg/kg	-	9.0	9.9	10	90
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.8	7.7	-	98
		VPH F						
		Benzene (F0)	mg/kg	0.1	3.3	<0.1	-	-
	Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	53	<25	62.5	83



Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the

QC Sample	Sample Number	Parameter	Units	LOR
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Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service .
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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ANALYTICAL REPORT



Accreditation No. 2562

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Project **S-05667.055**
Order Number **S-05667.055**
Samples 5

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SGS Reference **SE259300 R0**
Date Received 18 Jan 2024
Date Reported 29 Jan 2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420. Report No. ME345954.

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE259300.001	EDP-M7.DSI.BH 240_0.5	Soil	120g Clay, Sand, Rocks, Bitumen	16 Jan 2024	24 Jan 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE259300.006	EDP-M7.DSI.BH 154_0.5	Soil	175g Sand, Rocks, Bitumen	16 Jan 2024	24 Jan 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE259300.007	EDP-M7.DSI.BH 154_1.0	Soil	274g Clay, Sand, Rocks, Bitumen	16 Jan 2024	24 Jan 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE259300.010	EDP-M7.DSI.BH 155_0.5	Soil	363g Clay, Sand, Rocks, Bitumen	16 Jan 2024	24 Jan 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE259300.011	EDP-M7.DSI.BH 155_1.0	Soil	418g Clay, Sand, Rocks	16 Jan 2024	24 Jan 2024	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD

METHODOLOGY SUMMARY

AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states: "Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service.
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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Project **S-05667.055**
 Order Number **SE259300**
 Samples **15**

LABORATORY DETAILS

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SGS Reference **ME345954 R0**
 Date Received **22 Jan 2024**
 Date Reported **29 Jan 2024**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562 (14420/22793/24472).

SIGNATORIES



Adam ATKINSON
 Australian Chemistry Manager



Andrew WRIGHT
 Senior Chemist

Parameter	Units	LOR	Sample Number	ME345954.001	ME345954.002	ME345954.003	ME345954.004
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	16 Jan 2024	16 Jan 2024	16 Jan 2024	16 Jan 2024
			Sample Name	SE259300.001	SE259300.002	SE259300.003	SE259300.004

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples Method: MA-1523 Tested: 24/1/2024

Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	0.0024	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	0.011	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	0.030	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	0.013	-	-	-
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.032	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	99	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	99	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	127	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	105	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	98	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	132	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	103	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	92	-	-	-

Moisture Content Method: AN002 Tested: 24/1/2024

% Moisture	%w/w	1	12.6	-	-	-
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Parameter	Units	LOR	Sample Number	ME345954.005	ME345954.006	ME345954.007	ME345954.008
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	16 Jan 2024	16 Jan 2024	16 Jan 2024	16 Jan 2024
			Sample Name	SE259300.005	SE259300.006	SE259300.007	SE259300.008

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples Method: MA-1523 Tested: 29/1/2024

Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	-	<0.0008	0.0010	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Sum PFOS and PFHXS	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	94	97	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	94	95	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	108	124	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	97	114	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	95	109	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	105	104	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	105	88	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	83	91	-

Moisture Content Method: AN002 Tested: 29/1/2024

% Moisture	%w/w	1	-	9.5	8.6	-
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Parameter	Units	LOR	Sample Number	ME345954.009	ME345954.010	ME345954.011	ME345954.012
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	16 Jan 2024	16 Jan 2024	16 Jan 2024	16 Jan 2024
			Sample Name	SE259300.009	SE259300.010	SE259300.011	SE259300.012

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples Method: MA-1523 Tested: 29/1/2024

Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	-	<0.0008	<0.0008	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
Sum PFOS and PFHXS	mg/kg	0.0016	-	<0.0016	<0.0016	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	-	<0.0016	<0.0016	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	99	96	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	97	97	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	113	114	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	104	95	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	100	95	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	110	110	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	100	91	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	90	103	-

Moisture Content Method: AN002 Tested: 29/1/2024

% Moisture	%w/w	1	-	10.8	10.7	-
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Parameter	Sample Number	ME345954.013	ME345954.014	ME345954.015
	Sample Matrix	Soil	Soil	Soil
	Sample Date	16 Jan 2024	16 Jan 2024	16 Jan 2024
	Sample Name	SE259300.013	SE259300.014	SE259300.015
Units		LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples Method: MA-1523 Tested: 29/1/2024

Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	-	-	-
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0016	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-

Moisture Content Method: AN002 Tested: 29/1/2024

% Moisture	%w/w	1	-	-	-
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MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Moisture Content **Method: ME-(AU)-[ENV]AN002**

Parameter	QC Reference	Units	LOR	DUP %RPD
% Moisture	LB070991	%w/w	1	1 - 30%

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples **Method: MA-1523**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
Perfluoropentanoic acid (PFPeA)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
Perfluorohexanoic acid (PFHxA)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
Perfluoroheptanoic acid (PFHpA)	LB070986	mg/kg	0.0016	<0.0016	0%	110%
Perfluorooctanoic Acid (PFOA)	LB070986	mg/kg	0.0008	<0.0008	0%	91%
Perfluorobutane sulfonate (PFBS)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
Perfluoroheptane sulfonate (PFHpS)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
Perfluorooctane sulfonate (PFOS)	LB070986	mg/kg	0.0016	<0.0016	0%	132%
Sum PFOS and PFHXS	LB070986	mg/kg	0.0016	<0.0016	0%	NA
Perfluorononane sulfonate (PFNS)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB070986	mg/kg	0.0016	<0.0016	0%	NA
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB070986	%	-	98%	1 - 2%	97%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB070986	%	-	96%	1 - 3%	92%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB070986	%	-	127%	9 - 16%	120%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB070986	%	-	106%	10 - 13%	101%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB070986	%	-	115%	7 - 12%	127%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB070986	%	-	110%	5 - 12%	110%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB070986	%	-	98%	9%	102%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB070986	%	-	85%	3 - 17%	82%

METHOD

METHODOLOGY SUMMARY

AN002

The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.

MA-1523

This method covers the analysis of per- and polyfluoroalkyl substances (PFAS) in aqueous, solid and biosolid samples and solvent extracts, determined as the total of linear and branched isomers. After spiking with isotopically labelled quantification surrogates and clean-up via SPE cartridges sample extracts are analysed by liquid chromatography/mass spectrometry (LC-MS/MS). PFAS concentrations are determined by isotope dilution quantification.

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
***	Indicates that both * and ** apply.	-	The sample was not analysed for this analyte
		NVL	Not Validated

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

ME345954 R0

CLIENT DETAILS

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Project **S-05667.055**
Order Number **SE259300**
Samples **15**

LABORATORY DETAILS

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SGS Reference **ME345954 R0**
Date Received **22 Jan 2024**
Date Reported **29 Jan 2024**

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Melbourne EH&S laboratory).

SAMPLE SUMMARY

Sample counts by matrix	5 Soil	Type of documentation received	COC
Date documentation received	22/1/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	19.1°C
Sample container provider	SGS	Turnaround time requested	Three Days
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	2 Ice	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	2 Bag

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Moisture Content**Method: ME-(AU)-ENVJAN002**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SE259300.001	ME345954.001	LB070991	16 Jan 2024	22 Jan 2024	30 Jan 2024	24 Jan 2024	29 Jan 2024	29 Jan 2024
SE259300.006	ME345954.006	LB070991	16 Jan 2024	22 Jan 2024	30 Jan 2024	24 Jan 2024	29 Jan 2024	29 Jan 2024
SE259300.007	ME345954.007	LB070991	16 Jan 2024	22 Jan 2024	30 Jan 2024	24 Jan 2024	29 Jan 2024	29 Jan 2024
SE259300.010	ME345954.010	LB070991	16 Jan 2024	22 Jan 2024	30 Jan 2024	24 Jan 2024	29 Jan 2024	29 Jan 2024
SE259300.011	ME345954.011	LB070991	16 Jan 2024	22 Jan 2024	30 Jan 2024	24 Jan 2024	29 Jan 2024	29 Jan 2024

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples**Method: MA-1523**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SE259300.001	ME345954.001	LB070986	16 Jan 2024	22 Jan 2024	13 Feb 2024	24 Jan 2024	21 Feb 2024	29 Jan 2024
SE259300.006	ME345954.006	LB070986	16 Jan 2024	22 Jan 2024	13 Feb 2024	24 Jan 2024	21 Feb 2024	29 Jan 2024
SE259300.007	ME345954.007	LB070986	16 Jan 2024	22 Jan 2024	13 Feb 2024	24 Jan 2024	21 Feb 2024	29 Jan 2024
SE259300.010	ME345954.010	LB070986	16 Jan 2024	22 Jan 2024	13 Feb 2024	24 Jan 2024	21 Feb 2024	29 Jan 2024
SE259300.011	ME345954.011	LB070986	16 Jan 2024	22 Jan 2024	13 Feb 2024	24 Jan 2024	21 Feb 2024	29 Jan 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	SE259300.001	ME345954.001	%	0 - 150%	132
	SE259300.006	ME345954.006	%	0 - 150%	105
	SE259300.007	ME345954.007	%	0 - 150%	104
	SE259300.010	ME345954.010	%	0 - 150%	110
	SE259300.011	ME345954.011	%	0 - 150%	110
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	SE259300.001	ME345954.001	%	0 - 150%	103
	SE259300.006	ME345954.006	%	0 - 150%	105
	SE259300.007	ME345954.007	%	0 - 150%	88
	SE259300.010	ME345954.010	%	0 - 150%	100
	SE259300.011	ME345954.011	%	0 - 150%	91
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	SE259300.001	ME345954.001	%	0 - 150%	98
	SE259300.006	ME345954.006	%	0 - 150%	95
	SE259300.007	ME345954.007	%	0 - 150%	109
	SE259300.010	ME345954.010	%	0 - 150%	100
	SE259300.011	ME345954.011	%	0 - 150%	95
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	SE259300.001	ME345954.001	%	0 - 150%	99
	SE259300.006	ME345954.006	%	0 - 150%	94
	SE259300.007	ME345954.007	%	0 - 150%	97
	SE259300.010	ME345954.010	%	0 - 150%	99
	SE259300.011	ME345954.011	%	0 - 150%	96
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	SE259300.001	ME345954.001	%	0 - 150%	105
	SE259300.006	ME345954.006	%	0 - 150%	97
	SE259300.007	ME345954.007	%	0 - 150%	114
	SE259300.010	ME345954.010	%	0 - 150%	104
	SE259300.011	ME345954.011	%	0 - 150%	95
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	SE259300.001	ME345954.001	%	0 - 150%	127
	SE259300.006	ME345954.006	%	0 - 150%	108
	SE259300.007	ME345954.007	%	0 - 150%	124
	SE259300.010	ME345954.010	%	0 - 150%	113
	SE259300.011	ME345954.011	%	0 - 150%	114
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	SE259300.001	ME345954.001	%	0 - 150%	99
	SE259300.006	ME345954.006	%	0 - 150%	94
	SE259300.007	ME345954.007	%	0 - 150%	95
	SE259300.010	ME345954.010	%	0 - 150%	97
	SE259300.011	ME345954.011	%	0 - 150%	97
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	SE259300.001	ME345954.001	%	0 - 150%	92
	SE259300.006	ME345954.006	%	0 - 150%	83
	SE259300.007	ME345954.007	%	0 - 150%	91
	SE259300.010	ME345954.010	%	0 - 150%	90
	SE259300.011	ME345954.011	%	0 - 150%	103

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result
LB070986.001	Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016
	Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016
	Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016
	Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016
	Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008
	Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016
	Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016
	Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016
	Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016
	Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016
	Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016
	Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016
	1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016
	1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016
	1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	%	-	98
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	%	-	96
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	%	-	127
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	%	-	106
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	%	-	115
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	%	-	110
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	%	-	98
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	%	-	85

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME345951.001	LB070991.013	% Moisture	%w/w	1	11.0	8.2	40	30
ME345957.001	LB070991.002	% Moisture	%w/w	1	14.1	14.2	37	1

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME345951.001	LB070986.015	Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	200	0
		Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	mg/kg	-	9.85	9.65	200	2
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	mg/kg	-	9.59	9.31	200	3
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	mg/kg	-	13.2	11.2	200	16
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	mg/kg	-	11.0	9.71	200	13
		(13C4_PFOA) Isotopically Labelled Internal Recovery	mg/kg	-	10.7	9.49	200	12
		(13C3-PFBS) Isotopically Labelled Internal Recovery	mg/kg	-	11.5	10.2	200	12
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	mg/kg	-	10.1	9.20	200	9
		(13C8-PFOS) Isotopically Labelled Internal Recovery	mg/kg	-	8.91	10.5	200	17
ME345957.001	LB070986.004	Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	200	0
		Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016	200	0
		Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	mg/kg	-	9.64	9.75	200	1
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	mg/kg	-	9.58	9.67	200	1
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	mg/kg	-	10.8	11.8	200	9
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	mg/kg	-	10.3	11.4	200	10
		(13C4_PFOA) Isotopically Labelled Internal Recovery	mg/kg	-	10.4	9.77	200	7
		(13C3-PFBS) Isotopically Labelled Internal Recovery	mg/kg	-	11.2	10.6	200	5
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	mg/kg	-	9.87	8.98	200	9
		(13C8-PFOS) Isotopically Labelled Internal Recovery	mg/kg	-	10.7	11.1	200	3

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB070986.002	Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	0.00022	30 - 150	110
	Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	0.00022	30 - 150	91
	Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	0.00022	30 - 150	132
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	mg/kg	-	9.71	10	10 - 150	97
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	mg/kg	-	9.19	10	10 - 150	92
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	mg/kg	-	12.0	10	10 - 150	120
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	mg/kg	-	10.1	10	10 - 150	101
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	mg/kg	-	12.7	10	10 - 150	127
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	mg/kg	-	11.0	10	10 - 150	110
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	mg/kg	-	10.2	10	10 - 150	102
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	mg/kg	-	8.25	10	10 - 150	82

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spikes were required for this job.

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service .
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① Majority of surrogate recoveries are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- ⑪ Majority of spike recoveries are within acceptance criteria.
- † Refer to relevant report comments for further information.

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Request for Laboratory Services and Chain of Custody Form

Received Date:		Received By:		Cooling Method:		Samples intact:										
Logged-in Date:		Time of Receipt:		Cooler Sealed:		Temperature:										
COD must pay via cheque or credit card before analysis is commenced. AMEX & DINERS cards incur a 5% surcharge																
INVOICE TO:	Name:	Cristiane Florido	Quote #:													
	Company:	EDP Consultants Pty Ltd	Attached Parameter List:		☐ Yes ☒ No											
	Address:	Level 4 38 Oxley Street St Leonards NSW 2065	Replacement Sample Containers Required:		☐ Yes ☒ No											
	Email:	invoices@edp-au.com; Project.admin@edp-au.com; Cristiane.Florido@edp-au.com	Results Required By:		Standar TA Urgent TA requires lab approval											
	Phone:	0413 378 102	Fax:													
Client Information		PO No.:		Project No.:		S-05667.064										
Company Name:		EDP Consultants Pty Ltd														
Contact Name:		Cristiane Florido		Samplers:		Lucy Mercer										
Address:		Level 4 38 Oxley Street, St Leonards NSW 2065														
Phone Number:		0413 378 102 / 0401 448 367		After Hours Phone Number:		NA										
Fax Number:		NA		cristiane.florido@edp-au.com; lucy.mercer@edp-au.com												
Note: Results will be sent via email to an unlimited number of addresses for no additional fee. In the absence of email, fax is available upon request.																
Indicate results format (please check one): ☒ Email & Es&t ☐ Fax ☐																
SAMPLE INFORMATION																
Lab Sample ID	Sample Identifier	Date Sampled	Matrix: Soil Water Other	# of Bags	# of Bottles	Analysis Requested										
						C17	C10	Asbestos (presence / absence)	PFAS Short suite	CRS	Salinity	TRH/BTEX	Ph/PtOX	HOLD	Notes	
1	EDP-DSI.M7.007.BH04-0.2	29/01/2024	S	2	2	X		x	x		x					
2	EDP-DSI.M7.007.BH07-0.2	29/01/2024	S	2	2	x		x	x		x					
3	EDP-DSI.M7.007.BH07-1.0	29/01/2024	S	2	2	x		x	x		x					
4	EDP-DSI.M7.007.BH08-0.2	29/01/2024	S	2	2	x		x	x		x					
5	EDP-DSI.M7.007.BH08-1.0	29/01/2024	S	2	2	X		x	x		x					
6	EDP-DSI.M7.007.BH09-0.2	29/01/2024	S	2	2	x		x	x		x					
7	EDP-DSI.M7.007.BH09-1.0	29/01/2024	S	2	2	x		x	x		x					
8	EDP-DSI.M7.007.BH10-0.2	29/01/2024	S	2	2	x		x	x		x					
9	EDP-DSI.M7.007.BH10-1.0	29/01/2024	S	2	2	x		x	x		x					
						9	0	9	9	0	9	0	0	0		
Sampled By:		Lucy Mercer			Date: 29/01/2024											
Relinquished By:																
Dropped by Lucy Mercer					Date: 29/01/2024			Time:			5:30 PM					



SAMPLE RECEIPT ADVICE

SE259730

CLIENT DETAILS

Contact Cristiane Florido
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Project **S-05667.064**
Order Number **S-05667.064**
Samples 9

LABORATORY DETAILS

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Samples Received Mon 29/1/2024
Report Due Tue 6/2/2024
SGS Reference **SE259730**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Monday 29/1/2024. Results are expected to be ready by COB Tuesday 6/2/2024. Please quote SGS reference SE259730 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	9 Soil	Type of documentation received	COC
Date documentation received	29/01/2024@7:56pm	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	9.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420. Report No.

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SAMPLE RECEIPT ADVICE

SE259730

CLIENT DETAILS

Client EDP CONSULTANTS PTY LTD

Project S-05667.064

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Soil	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	EDP-DSI-M7.007BH04-0.2	2	30	14	26	11	10	11	7
002	EDP-DSI-M7.007BH07-0.2	2	30	14	26	11	10	11	7
003	EDP-DSI-M7.007BH07-1.0	2	30	14	26	11	10	11	7
004	EDP-DSI-M7.007BH08-0.2	2	30	14	26	11	10	11	7
005	EDP-DSI-M7.007BH08-1.0	2	30	14	26	11	10	11	7
006	EDP-DSI-M7.007BH09-0.2	2	30	14	26	11	10	11	7
007	EDP-DSI-M7.007BH09-1.0	2	30	14	26	11	10	11	7
008	EDP-DSI-M7.007BH10-0.2	2	30	14	26	11	10	11	7
009	EDP-DSI-M7.007BH10-1.0	2	30	14	26	11	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE259730

CLIENT DETAILS

Client EDP CONSULTANTS PTY LTD

Project S-05667.064

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	Per- and Polyfluoroalkyl Substances (PFAS) in	Total Recoverable Elements in Soil/Waste
001	EDP-DSI-M7.007BH04-0.2	3	1	1	23	7
002	EDP-DSI-M7.007BH07-0.2	3	1	1	23	7
003	EDP-DSI-M7.007BH07-1.0	3	1	1	23	7
004	EDP-DSI-M7.007BH08-0.2	3	1	1	23	7
005	EDP-DSI-M7.007BH08-1.0	3	1	1	23	7
006	EDP-DSI-M7.007BH09-0.2	3	1	1	23	7
007	EDP-DSI-M7.007BH09-1.0	3	1	1	23	7
008	EDP-DSI-M7.007BH10-0.2	3	1	1	23	7
009	EDP-DSI-M7.007BH10-1.0	3	1	1	23	7

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

COC#: SE259730

Ship to: XML

Project Name:

Client: EDP CONSULTANTS PTY LT 42565904_18072267

Due date: 6/02/2024 5:55:00 PM
Send Results to: AUENVSE

Sampler Name: LM

Carrier:

Airbill #:

SGS Alexandria Environmental
SE259730 SUBCON
Received: 29-Jan-2024

Sample Condition Upon Receipt at Laboratory:

Cooler temperature:

Special Instructions/Comments:

Job Booked by: DAA 30/01/2024

Login Checked by: XGS 30/1/24

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date:	#3 Released by: (Sig)	Date:
Company Name:	Time	Company Name:	Time	Company Name:	Time
#1 Received by: (Sig)	Date	#2 Received by: (Sig)	Date	#3 Received by: (Sig)	Date
Company Name:	Time:	Company Name:	Time:	Company Name:	Time:

CLIENT DETAILS

Contact Cristiane Florido
Client EDP CONSULTANTS PTY LTD
Address LEVEL 4, 38 OXLEY STREET
ST LEONARDS NSW 2065

Telephone 61 2 84845810
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Email cristiane.florido@edp-au.com
Project **S-05667.064**
Order Number **S-05667.064**
Samples 9

LABORATORY DETAILS

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Laboratory SGS Alexandria Environmental
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Alexandria NSW 2015
Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com
SGS Reference **SE259730 R0**
Date Received 29/1/2024
Date Reported 7/2/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420. Report No. ME346166

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 30/1/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2	-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.006	SE259730.007	SE259730.008	SE259730.009
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 30/1/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2	-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.006	SE259730.007	SE259730.008	SE259730.009
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 30/1/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2 SOIL -	-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024 SE259730.001	29/1/2024 SE259730.002	29/1/2024 SE259730.003	29/1/2024 SE259730.004	29/1/2024 SE259730.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	56	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024 SE259730.006	29/1/2024 SE259730.007	29/1/2024 SE259730.008	29/1/2024 SE259730.009
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2 SOIL -	-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024 SE259730.001	29/1/2024 SE259730.002	29/1/2024 SE259730.003	29/1/2024 SE259730.004	29/1/2024 SE259730.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	0.1	<0.1	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024 SE259730.006	29/1/2024 SE259730.007	29/1/2024 SE259730.008	29/1/2024 SE259730.009
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 30/1/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2 SOIL -	-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024 SE259730.001	29/1/2024 SE259730.002	29/1/2024 SE259730.003	29/1/2024 SE259730.004	29/1/2024 SE259730.005
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2024 (continued)

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024 SE259730.006	29/1/2024 SE259730.007	29/1/2024 SE259730.008	29/1/2024 SE259730.009
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 30/1/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2	-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.006	SE259730.007	SE259730.008	SE259730.009
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 30/1/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2	-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.006	SE259730.007	SE259730.008	SE259730.009
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1



ANALYTICAL RESULTS

SE259730 R0

Conductivity and TDS by Calculation - Soil [AN106] Tested: 6/2/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2	-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
Conductivity of Extract (1:5 as received)	µS/cm	1	100	150	350	150	260
Salinity (by calculation)*	mg/kg	5	460	560	1400	520	940

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.006	SE259730.007	SE259730.008	SE259730.009
Conductivity of Extract (1:5 as received)	µS/cm	1	38	350	52	400
Salinity (by calculation)*	mg/kg	5	150	1300	200	1500

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 30/1/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2	-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
Arsenic, As	mg/kg	1	10	7	7	8	17
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	16	20	19	21	24
Copper, Cu	mg/kg	0.5	36	36	14	20	22
Lead, Pb	mg/kg	1	19	59	18	20	23
Nickel, Ni	mg/kg	0.5	20	22	9.0	15	18
Zinc, Zn	mg/kg	2	110	140	26	47	40

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.006	SE259730.007	SE259730.008	SE259730.009
Arsenic, As	mg/kg	1	7	8	8	9
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	21	23	17	23
Copper, Cu	mg/kg	0.5	22	16	12	17
Lead, Pb	mg/kg	1	24	20	19	19
Nickel, Ni	mg/kg	0.5	15	12	6.1	10
Zinc, Zn	mg/kg	2	48	39	25	35



ANALYTICAL RESULTS

SE259730 R0

Mercury in Soil [AN312] Tested: 30/1/2024

			EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2 SOIL - 29/1/2024	-0.2 SOIL - 29/1/2024	-1.0 SOIL - 29/1/2024	-0.2 SOIL - 29/1/2024	-1.0 SOIL - 29/1/2024
PARAMETER	UOM	LOR	SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2 SOIL - 29/1/2024	-1.0 SOIL - 29/1/2024	-0.2 SOIL - 29/1/2024	-1.0 SOIL - 29/1/2024
PARAMETER	UOM	LOR	SE259730.006	SE259730.007	SE259730.008	SE259730.009
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05



ANALYTICAL RESULTS

SE259730 R0

Moisture Content [AN002] Tested: 30/1/2024

			EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2 SOIL -	-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024	29/1/2024	29/1/2024	29/1/2024	29/1/2024
PARAMETER	UOM	LOR	SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
% Moisture	%w/w	1	28.5	14.3	16.7	8.9	10.1

			EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024	29/1/2024	29/1/2024	29/1/2024
PARAMETER	UOM	LOR	SE259730.006	SE259730.007	SE259730.008	SE259730.009
% Moisture	%w/w	1	14.4	14.0	13.9	16.0



ANALYTICAL RESULTS

SE259730 R0

Fibre Identification in soil [AS4964/AN602] Tested: 2/2/2024

			EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2 SOIL -	-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024	29/1/2024	29/1/2024	29/1/2024	29/1/2024
PARAMETER	UOM	LOR	SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	05/02/2024 00:00	05/02/2024 00:00	05/02/2024 00:00	05/02/2024 00:00	05/02/2024 00:00

			EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2 SOIL -	-1.0 SOIL -	-0.2 SOIL -	-1.0 SOIL -
			29/1/2024	29/1/2024	29/1/2024	29/1/2024
PARAMETER	UOM	LOR	SE259730.006	SE259730.007	SE259730.008	SE259730.009
Asbestos Detected	No unit	-	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	05/02/2024 00:00	05/02/2024 00:00	05/02/2024 00:00	05/02/2024 00:00

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 7/2/2024

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0
			-0.2	-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.001	SE259730.002	SE259730.003	SE259730.004	SE259730.005
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.0016	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016

PARAMETER	UOM	LOR	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH0	EDP-DSI-M7.007BH1	EDP-DSI-M7.007BH1
			-0.2	-1.0	-0.2	-1.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			29/1/2024	29/1/2024	29/1/2024	29/1/2024
			SE259730.006	SE259730.007	SE259730.008	SE259730.009
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016

METHOD

METHODOLOGY SUMMARY

AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract of as received sample with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting.
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

AN602/AS4964

The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if-

- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres);
- (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and
- (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

MA-1523

This method covers the analysis of per- and polyfluoroalkyl substances (PFAS) in aqueous, solid and biosolid samples and solvent extracts, determined as the total of linear and branched isomers. After spiking with isotopically labelled quantification surrogates and clean-up via SPE cartridges sample extracts are analysed by liquid chromatography/mass spectrometry (LC-MS/MS). PFAS concentrations are determined by isotope dilution quantification.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- a. 1 Bq is equivalent to 27 pCi
- b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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STATEMENT OF QA/QC PERFORMANCE

SE259730 R0

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Project **S-05667.064**
Order Number **S-05667.064**
Samples 9

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SGS Reference **SE259730 R0**
Date Received 29 Jan 2024
Date Reported 07 Feb 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	Conductivity and TDS by Calculation - Soil	9 items
Analysis Date	Conductivity and TDS by Calculation - Soil	18 items

SAMPLE SUMMARY

Sample counts by matrix	9 Soil	Type of documentation received	COC
Date documentation received	29/01/2024@7:56pr	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	9.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes		



HOLDING TIME SUMMARY

SE259730 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB303216	29 Jan 2024	29 Jan 2024	05 Feb 2024	06 Feb 2024†	05 Feb 2024	06 Feb 2024†
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB303216	29 Jan 2024	29 Jan 2024	05 Feb 2024	06 Feb 2024†	05 Feb 2024	06 Feb 2024†
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB303216	29 Jan 2024	29 Jan 2024	05 Feb 2024	06 Feb 2024†	05 Feb 2024	06 Feb 2024†
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB303216	29 Jan 2024	29 Jan 2024	05 Feb 2024	06 Feb 2024†	05 Feb 2024	06 Feb 2024†
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB303216	29 Jan 2024	29 Jan 2024	05 Feb 2024	06 Feb 2024†	05 Feb 2024	06 Feb 2024†
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB303216	29 Jan 2024	29 Jan 2024	05 Feb 2024	06 Feb 2024†	05 Feb 2024	06 Feb 2024†
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB303216	29 Jan 2024	29 Jan 2024	05 Feb 2024	06 Feb 2024†	05 Feb 2024	06 Feb 2024†
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB303216	29 Jan 2024	29 Jan 2024	05 Feb 2024	06 Feb 2024†	05 Feb 2024	06 Feb 2024†
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB303216	29 Jan 2024	29 Jan 2024	05 Feb 2024	06 Feb 2024†	05 Feb 2024	06 Feb 2024†

Fibre Identification in soil

Method: ME-(AU)-[ENV]AS4964/AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302937	29 Jan 2024	29 Jan 2024	28 Jan 2025	02 Feb 2024	28 Jan 2025	06 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302937	29 Jan 2024	29 Jan 2024	28 Jan 2025	02 Feb 2024	28 Jan 2025	06 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302937	29 Jan 2024	29 Jan 2024	28 Jan 2025	02 Feb 2024	28 Jan 2025	06 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302937	29 Jan 2024	29 Jan 2024	28 Jan 2025	02 Feb 2024	28 Jan 2025	06 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302937	29 Jan 2024	29 Jan 2024	28 Jan 2025	02 Feb 2024	28 Jan 2025	06 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302937	29 Jan 2024	29 Jan 2024	28 Jan 2025	02 Feb 2024	28 Jan 2025	06 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302937	29 Jan 2024	29 Jan 2024	28 Jan 2025	02 Feb 2024	28 Jan 2025	06 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302937	29 Jan 2024	29 Jan 2024	28 Jan 2025	02 Feb 2024	28 Jan 2025	06 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302937	29 Jan 2024	29 Jan 2024	28 Jan 2025	02 Feb 2024	28 Jan 2025	06 Feb 2024

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302612	29 Jan 2024	29 Jan 2024	26 Feb 2024	30 Jan 2024	26 Feb 2024	06 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302612	29 Jan 2024	29 Jan 2024	26 Feb 2024	30 Jan 2024	26 Feb 2024	06 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302612	29 Jan 2024	29 Jan 2024	26 Feb 2024	30 Jan 2024	26 Feb 2024	06 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302612	29 Jan 2024	29 Jan 2024	26 Feb 2024	30 Jan 2024	26 Feb 2024	06 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302612	29 Jan 2024	29 Jan 2024	26 Feb 2024	30 Jan 2024	26 Feb 2024	06 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302612	29 Jan 2024	29 Jan 2024	26 Feb 2024	30 Jan 2024	26 Feb 2024	06 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302612	29 Jan 2024	29 Jan 2024	26 Feb 2024	30 Jan 2024	26 Feb 2024	06 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302612	29 Jan 2024	29 Jan 2024	26 Feb 2024	30 Jan 2024	26 Feb 2024	06 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302612	29 Jan 2024	29 Jan 2024	26 Feb 2024	30 Jan 2024	26 Feb 2024	06 Feb 2024

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302607	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	04 Feb 2024	02 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302607	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	04 Feb 2024	02 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302607	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	04 Feb 2024	02 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302607	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	04 Feb 2024	02 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302607	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	04 Feb 2024	02 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302607	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	04 Feb 2024	02 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302607	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	04 Feb 2024	02 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302607	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	04 Feb 2024	02 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302607	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	04 Feb 2024	02 Feb 2024

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024



HOLDING TIME SUMMARY

SE259730 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]JAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024

PCBs in Soil

Method: ME-(AU)-[ENV]JAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	05 Feb 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]JAN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302611	29 Jan 2024	29 Jan 2024	27 Jul 2024	30 Jan 2024	27 Jul 2024	05 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302611	29 Jan 2024	29 Jan 2024	27 Jul 2024	30 Jan 2024	27 Jul 2024	05 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302611	29 Jan 2024	29 Jan 2024	27 Jul 2024	30 Jan 2024	27 Jul 2024	05 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302611	29 Jan 2024	29 Jan 2024	27 Jul 2024	30 Jan 2024	27 Jul 2024	05 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302611	29 Jan 2024	29 Jan 2024	27 Jul 2024	30 Jan 2024	27 Jul 2024	05 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302611	29 Jan 2024	29 Jan 2024	27 Jul 2024	30 Jan 2024	27 Jul 2024	05 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302611	29 Jan 2024	29 Jan 2024	27 Jul 2024	30 Jan 2024	27 Jul 2024	05 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302611	29 Jan 2024	29 Jan 2024	27 Jul 2024	30 Jan 2024	27 Jul 2024	05 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302611	29 Jan 2024	29 Jan 2024	27 Jul 2024	30 Jan 2024	27 Jul 2024	05 Feb 2024

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302599	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	10 Mar 2024	02 Feb 2024

VOC's in Soil

Method: ME-(AU)-[ENV]JAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024



HOLDING TIME SUMMARY

SE259730 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI-M7.007BH04-0.2	SE259730.001	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH07-0.2	SE259730.002	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH07-1.0	SE259730.003	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH08-0.2	SE259730.004	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH08-1.0	SE259730.005	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH09-0.2	SE259730.006	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH09-1.0	SE259730.007	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH10-0.2	SE259730.008	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024
EDP-DSI-M7.007BH10-1.0	SE259730.009	LB302603	29 Jan 2024	29 Jan 2024	12 Feb 2024	30 Jan 2024	12 Feb 2024	05 Feb 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	93
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	88
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	82
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	87
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	91
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	84
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	96
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	83
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	90

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	78
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	89
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	90
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	110
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	90
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	91
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	93
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	93
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	97
d14-p-terphenyl (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	104
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	100
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	102
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	121
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	102
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	101
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	99
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	104
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	104

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	70 - 130%	78
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	70 - 130%	89
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	70 - 130%	90
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	70 - 130%	110
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	70 - 130%	90
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	70 - 130%	91
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	70 - 130%	93
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	70 - 130%	93
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	70 - 130%	97
d14-p-terphenyl (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	70 - 130%	104
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	70 - 130%	100
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	70 - 130%	102
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	70 - 130%	121
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	70 - 130%	102
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	70 - 130%	101
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	70 - 130%	99
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	70 - 130%	104
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	70 - 130%	104
d5-nitrobenzene (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	70 - 130%	94
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	70 - 130%	101
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	70 - 130%	102
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	70 - 130%	122
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	70 - 130%	101
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	70 - 130%	100
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	70 - 130%	103
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	70 - 130%	105
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	70 - 130%	107

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	89
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	85
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	78
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	84
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	87
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	80
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	93
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	80
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	86

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	0 - 150%	98
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	0 - 150%	110
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	0 - 150%	101
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	0 - 150%	90
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	0 - 150%	100
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	0 - 150%	98
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	0 - 150%	93
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	0 - 150%	95
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	0 - 150%	100
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	0 - 150%	98
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	0 - 150%	97
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	0 - 150%	86
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	0 - 150%	82
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	0 - 150%	90
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	0 - 150%	85
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	0 - 150%	92
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	0 - 150%	96
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	0 - 150%	96
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	0 - 150%	101
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	0 - 150%	87
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	0 - 150%	98
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	0 - 150%	86
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	0 - 150%	95
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	0 - 150%	93
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	0 - 150%	89
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	0 - 150%	117
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	0 - 150%	94
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	0 - 150%	101
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	0 - 150%	103
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	0 - 150%	100
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	0 - 150%	102
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	0 - 150%	101
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	0 - 150%	102
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	0 - 150%	102
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	0 - 150%	102
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	0 - 150%	102
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	0 - 150%	97
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	0 - 150%	98
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	0 - 150%	101
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	0 - 150%	92
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	0 - 150%	93
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	0 - 150%	93
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	0 - 150%	94
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	0 - 150%	100
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	0 - 150%	90
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	0 - 150%	101
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	0 - 150%	99
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	0 - 150%	102
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	0 - 150%	93

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	0 - 150%	91
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	0 - 150%	101
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	0 - 150%	96
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	0 - 150%	110
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	0 - 150%	90
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	0 - 150%	105
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	0 - 150%	104
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	0 - 150%	103
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	0 - 150%	103
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	0 - 150%	104
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	0 - 150%	104
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	0 - 150%	107
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	0 - 150%	103
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	0 - 150%	104
	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	0 - 150%	99
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	0 - 150%	106
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	0 - 150%	92
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	0 - 150%	77
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	0 - 150%	102
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	0 - 150%	89
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	0 - 150%	115
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	0 - 150%	110
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	0 - 150%	119

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	85
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	91
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	80
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	86
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	83
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	79
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	82
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	85
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	85
d4-1,2-dichloroethane (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	74
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	76
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	79
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	84
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	78
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	80
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	79
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	82
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	83
d8-toluene (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	75
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	80
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	73
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	74
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	70
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	82
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	82
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	86
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	86

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	85
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	91
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	80
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	86
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	83
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	79

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	82
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	85
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	85
d4-1,2-dichloroethane (Surrogate)	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	74
	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	76
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	79
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	84
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	78
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	80
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	79
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	82
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	83
	EDP-DSI-M7.007BH04-0.2	SE259730.001	%	60 - 130%	75
d8-toluene (Surrogate)	EDP-DSI-M7.007BH07-0.2	SE259730.002	%	60 - 130%	80
	EDP-DSI-M7.007BH07-1.0	SE259730.003	%	60 - 130%	73
	EDP-DSI-M7.007BH08-0.2	SE259730.004	%	60 - 130%	74
	EDP-DSI-M7.007BH08-1.0	SE259730.005	%	60 - 130%	70
	EDP-DSI-M7.007BH09-0.2	SE259730.006	%	60 - 130%	82
	EDP-DSI-M7.007BH09-1.0	SE259730.007	%	60 - 130%	82
	EDP-DSI-M7.007BH10-0.2	SE259730.008	%	60 - 130%	86
	EDP-DSI-M7.007BH10-1.0	SE259730.009	%	60 - 130%	86

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB303216.001	Conductivity of Extract (1:5 as received)	µS/cm	1	<1
	Salinity (by calculation)*	mg/kg	5	<5

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB302612.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB302599.001	Alpha BHC	mg/kg	0.1	<0.1
	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Lindane (gamma BHC)	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	Endrin aldehyde	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endrin ketone	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	75

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB302599.001	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	2-fluorobiphenyl (Surrogate)	%	-	100
	d14-p-terphenyl (Surrogate)	%	-	108
Surrogates				

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB302599.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB302599.001	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates			
	d5-nitrobenzene (Surrogate)	%	-	107
	2-fluorobiphenyl (Surrogate)	%	-	100
	d14-p-terphenyl (Surrogate)	%	-	108

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB302599.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates			
	TCMX (Surrogate)	%	-	75

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB302611.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB302599.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB302603.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	87
		d8-toluene (Surrogate)	%	-	77
		Bromofluorobenzene (Surrogate)	%	-	93
	Totals	Total BTEX*	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result
LB302603.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.002	LB303216.014	Conductivity of Extract (1:5 as received)	µS/cm	1	150	150	31	3
		Salinity (by calculation)*	mg/kg	5	560	580	32	3
SE259730.009	LB303216.022	Conductivity of Extract (1:5 as received)	µS/cm	1	400	410	30	3
		Salinity (by calculation)*	mg/kg	5	1500	1600	31	3

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.001	LB302612.014	Mercury	mg/kg	0.05	<0.05	<0.05	187	0
SE259730.009	LB302612.023	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259729.013	LB302607.011	% Moisture	%w/w	1	3.99600399604.8458149779		53	19
SE259730.009	LB302607.021	% Moisture	%w/w	1	16.0	15.3	36	5

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.001	LB302599.026	Alpha BHC	mg/kg	0.1	<0.1	0.0006618684	200	0
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
		Beta BHC	mg/kg	0.1	<0.1	0.0024689168	200	0
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	0.0010124169	200	0
		Delta BHC	mg/kg	0.1	<0.1	0.0026692799	200	0
		Heptachlor	mg/kg	0.1	<0.1	0.0008349367	200	0
		Aldrin	mg/kg	0.1	<0.1	0.0013715116	200	0
		Isodrin	mg/kg	0.1	<0.1	0.0022493398	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	0.0012659343	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	0.0021373019	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	0.0025365652	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	0.0033296946	200	0
		o,p'-DDE*	mg/kg	0.1	<0.1	0.0033296946	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	0.0217872876	200	0
		Dieldrin	mg/kg	0.2	<0.2	0.0016806873	200	0
		Endrin	mg/kg	0.2	<0.2	0.0010145928	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	0.0003756323	200	0
		o,p'-DDD*	mg/kg	0.1	<0.1	0.0791578615	175	0
		p,p'-DDD	mg/kg	0.1	<0.1	0.0004774189	200	0
		Endrin aldehyde	mg/kg	0.1	<0.1	0.0080033956	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	0.0052341731	200	0
		o,p'-DDT*	mg/kg	0.1	<0.1	0.0004769657	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	0.0033080807	200	0
		Endrin ketone	mg/kg	0.1	<0.1	0.0044587191	200	0
		Methoxychlor	mg/kg	0.1	<0.1	0.0010227476	200	0
		Mirex	mg/kg	0.1	<0.1	0.0021693527	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	0.0002854892	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Total OC VIC EPA	mg/kg	1	<1	0	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.1289545539	30	8
SE259730.009	LB302599.024	Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.009	LB302599.024	o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Total OC VIC EPA	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.14	30	1

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.001	LB302599.026	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	0.0001189330	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.0018855816	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.0031341124	200	0
		Dichlorvos	mg/kg	0.5	<0.5	0	200	0
		Dimethoate	mg/kg	0.5	<0.5	0.0007244762	200	0
		Ethion	mg/kg	0.2	<0.2	0.0033069080	200	0
		Fenitrothion	mg/kg	0.2	<0.2	0	200	0
		Malathion	mg/kg	0.2	<0.2	8.9067711569	200	0
		Methidathion	mg/kg	0.5	<0.5	0.0013221169	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.3985952424	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5232994448	30	1
SE259730.009	LB302599.024	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.001	LB302599.026	Naphthalene	mg/kg	0.1	<0.1	0.0016161128	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	0.0014110106	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	0.0015819929	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	0.0054331513	200	0
		Acenaphthene	mg/kg	0.1	<0.1	0.0015477114	200	0
		Fluorene	mg/kg	0.1	<0.1	0.0038404597	200	0
		Phenanthrene	mg/kg	0.1	<0.1	0.0448827774	200	0
		Anthracene	mg/kg	0.1	<0.1	0.0075226239	200	0
		Fluoranthene	mg/kg	0.1	<0.1	0.0781079310	146	0
		Pyrene	mg/kg	0.1	<0.1	0.0770813754	147	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.001	LB302599.026	Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0290493250	200	0
		Chrysene	mg/kg	0.1	<0.1	0.0296946168	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.0366329866	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.0181698415	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	0.0354770685	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.0298042883	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.0041762202	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.0326196084	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	0	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	0.121	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	0.242	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4854196284	30	3
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.3985952424	30	2
SE259730.009	LB302599.024	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5232994448	30	1
		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	2
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.001	LB302599.026	Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		TCMX (Surrogate)	mg/kg	-	0	0.1236244424	30	8
		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PCBs in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.009	LB302599.024	Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	TCMX (Surrogate)	-	0	0	30	1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-ENVJAN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.001	LB302611.014	Arsenic, As	mg/kg	1	10	11	40	6
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	16	16	33	2
		Copper, Cu	mg/kg	0.5	36	46	31	24
		Nickel, Ni	mg/kg	0.5	20	17	33	18
		Lead, Pb	mg/kg	1	19	26	34	32
SE259730.009	LB302611.023	Zinc, Zn	mg/kg	2	110	140	32	22
		Arsenic, As	mg/kg	1	9	8	42	7
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	23	21	32	8
		Copper, Cu	mg/kg	0.5	17	17	33	0
		Nickel, Ni	mg/kg	0.5	10	9.6	35	4
		Lead, Pb	mg/kg	1	19	18	35	5
		Zinc, Zn	mg/kg	2	35	32	36	8

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE259730.001	LB302599.026	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE259730.009	LB302599.024	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259729.010	LB302603.027	Monocyclic	Benzene	mg/kg	0.1	0	0	200	0
			Aromatic	Toluene	mg/kg	0.1	0.00235261030.0024435430	200	0
		Ethylbenzene	mg/kg	0.1	0.00050260930.0006645192	200	0		
		m/p-xylene	mg/kg	0.2	0.00146113960.0018163888	200	0		
		o-xylene	mg/kg	0.1	0.00055409630.0007159341	200	0		
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	0.00148586600.0017025884	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.78747140518.0994964797	50	4	
			d8-toluene (Surrogate)	mg/kg	-	8.01152614718.3617975322	50	4	
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.21942613909.1605716676	50	11	
		Totals	Total BTEX*	mg/kg	0.6	0	0	200	0
			Total Xylenes*	mg/kg	0.3	0.00201523600.0025323230	200	0	
SE259730.009	LB302603.025	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
		Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0	
		m/o-xylene	mg/kg	0.2	<0.2	<0.2	200	0	

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE259730.009	LB302603.025	Monocyclic	o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.3	8.6	50	4
			d8-toluene (Surrogate)	mg/kg	-	8.6	8.9	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.5	9.6	50	12
			Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE259729.010	LB302603.027	TRH C6-C10	mg/kg	25	0	0	200	0	
		TRH C6-C9	mg/kg	20	0	0	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.78747140518.0994964797	50	4	
			d8-toluene (Surrogate)	mg/kg	-	8.01152614718.3617975322	50	4	
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.21942613909.1605716676	50	11	
		VPH F Bands	Benzene (F0)	mg/kg	0.1	0	0	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	0	0	200	0
		SE259730.009	LB302603.025	TRH C6-C10	mg/kg	25	<25	<25	200
TRH C6-C9	mg/kg			20	<20	<20	200	0	
Surrogates	d4-1,2-dichloroethane (Surrogate)			mg/kg	-	8.3	8.6	50	4
	d8-toluene (Surrogate)			mg/kg	-	8.6	8.9	50	4
	Bromofluorobenzene (Surrogate)			mg/kg	-	8.5	9.6	50	12
VPH F Bands	Benzene (F0)			mg/kg	0.1	<0.1	<0.1	200	0
	TRH C6-C10 minus BTEX (F1)			mg/kg	25	<25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303216.002	Conductivity of Extract (1:5 as received)	µS/cm	1	310	303	85 - 115	102

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302612.002	Mercury	mg/kg	0.05	0.18	0.2	80 - 120	89

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302599.002	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	78
	Heptachlor	mg/kg	0.1	0.1	0.2	60 - 140	74
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	76
	Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	76
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	77
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	76
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.11	0.15	40 - 130	75

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302599.002	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	97
	Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	60 - 140	97
	Dichlorvos	mg/kg	0.5	1.7	2	60 - 140	85
	Ethion	mg/kg	0.2	1.7	2	60 - 140	87
	Surrogates						
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	103
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	108

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302599.002	Naphthalene	mg/kg	0.1	4.2	4	60 - 140	105
	Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	101
	Acenaphthene	mg/kg	0.1	4.2	4	60 - 140	106
	Phenanthrene	mg/kg	0.1	4.2	4	60 - 140	106
	Anthracene	mg/kg	0.1	4.2	4	60 - 140	104
	Fluoranthene	mg/kg	0.1	4.2	4	60 - 140	106
	Pyrene	mg/kg	0.1	4.2	4	60 - 140	106
	Benzo(a)pyrene	mg/kg	0.1	4.5	4	60 - 140	112
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	107
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	103
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	108

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302599.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	102

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302611.002	Arsenic, As	mg/kg	1	300	318.22	80 - 120	93
	Cadmium, Cd	mg/kg	0.3	3.6	4.81	70 - 130	74
	Chromium, Cr	mg/kg	0.5	35	38.31	80 - 120	91
	Copper, Cu	mg/kg	0.5	290	290	80 - 120	99
	Nickel, Ni	mg/kg	0.5	170	187	80 - 120	89
	Lead, Pb	mg/kg	1	79	89.9	80 - 120	88
	Zinc, Zn	mg/kg	2	250	273	80 - 120	90

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302599.002	TRH C10-C14	mg/kg	20	39	40	60 - 140	99
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	104
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	96

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302599.002	TRH F Bands	TRH >C10-C16	mg/kg	25	41	40	60 - 140 103
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140 102
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140 96

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302603.002	Monocyclic	Benzene	mg/kg	0.1	4.5	5	60 - 140	91
	Aromatic	Toluene	mg/kg	0.1	4.5	5	60 - 140	89
		Ethylbenzene	mg/kg	0.1	4.6	5	60 - 140	91
		m/p-xylene	mg/kg	0.2	8.9	10	60 - 140	89
		o-xylene	mg/kg	0.1	4.6	5	60 - 140	93
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	10	70 - 130	101
		d8-toluene (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10	70 - 130	96

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB302603.002	TRH C6-C10	TRH C6-C10	mg/kg	25	110	92.5	60 - 140 118
		TRH C6-C9	mg/kg	20	100	80	60 - 140 128
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	10	70 - 130 101
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10	70 - 130 96
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	82	62.5	60 - 140 131

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259729.001	LB302612.004	Mercury	mg/kg	0.05	0.24	0.02320173971	0.2	110

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259729.001	LB302599.004	Alpha BHC	mg/kg	0.1	<0.1	0	-	-
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0.00021262713	-	-
		Beta BHC	mg/kg	0.1	<0.1	0.00431153460	-	-
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	0	-	-
		Delta BHC	mg/kg	0.1	0.2	0.00264044732	0.2	79
		Heptachlor	mg/kg	0.1	0.2	0	0.2	76
		Aldrin	mg/kg	0.1	0.2	0.00210275747	0.2	76
		Isodrin	mg/kg	0.1	<0.1	0.00147631639	-	-
		Heptachlor epoxide	mg/kg	0.1	<0.1	0.00119675434	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	0	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	0.00187055841	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	0.00074744530	-	-
		o,p'-DDE*	mg/kg	0.1	<0.1	0.00074744530	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	0.00842954718	-	-
		Dieldrin	mg/kg	0.2	<0.2	0.00165331933	0.2	78
		Endrin	mg/kg	0.2	<0.2	0.00069421375	0.2	80
		Beta Endosulfan	mg/kg	0.2	<0.2	0.00097774732	-	-
		o,p'-DDD*	mg/kg	0.1	<0.1	0.01521544905	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	0	-	-
		Endrin aldehyde	mg/kg	0.1	<0.1	0.00596245267	-	-
		Endosulfan sulphate	mg/kg	0.1	<0.1	0.00081135698	-	-
		o,p'-DDT*	mg/kg	0.1	<0.1	0	-	-
		p,p'-DDT	mg/kg	0.1	0.2	0.00522093605	0.2	79
		Endrin ketone	mg/kg	0.1	<0.1	0.00035784768	-	-
		Methoxychlor	mg/kg	0.1	<0.1	0.00134221519	-	-
		Mirex	mg/kg	0.1	<0.1	0.00379696764	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	0	-	-
		Total CLP OC Pesticides	mg/kg	1	<1	0	-	-
		Total OC VIC EPA	mg/kg	1	<1	0	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.12161771325	-	78

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259729.001	LB302599.004	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0.01012621668	-	-
		Bromophos Ethyl	mg/kg	0.2	<0.2	0	-	-
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	0.01308643158	2	101
		Diazinon (Dimpylate)	mg/kg	0.5	2.0	0.01201477587	2	100
		Dichlorvos	mg/kg	0.5	1.8	0.01212371952	2	88
		Dimethoate	mg/kg	0.5	<0.5	0.00704854893	-	-
		Ethion	mg/kg	0.2	2.0	0.01142832447	2	98
		Fenitrothion	mg/kg	0.2	<0.2	0.00019742640	-	-
		Malathion	mg/kg	0.2	<0.2	0.00114121290	-	-
		Methidathion	mg/kg	0.5	<0.5	0	-	-
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	-	-
		Total OP Pesticides*	mg/kg	1.7	7.8	0	-	-
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.47336062266	-	102
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.50839765956	-	104

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259729.001	LB302599.004	Naphthalene	mg/kg	0.1	4.1	0.03017180012	4	103
		2-methylnaphthalene	mg/kg	0.1	<0.1	0.00117653042	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	0.00173359135	-	-
		Acenaphthylene	mg/kg	0.1	4.0	0.02771082217	4	100
		Acenaphthene	mg/kg	0.1	4.1	0.02927078457	4	103
		Fluorene	mg/kg	0.1	<0.1	0.00408324166	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259729.001	LB302599.004	Phenanthrene	mg/kg	0.1	4.1	0.04997031119	4	102
		Anthracene	mg/kg	0.1	4.1	0.03184152676	4	101
		Fluoranthene	mg/kg	0.1	4.2	0.07934900878	4	103
		Pyrene	mg/kg	0.1	4.1	0.07721407087	4	100
		Benzo(a)anthracene	mg/kg	0.1	<0.1	0.02726224752	-	-
		Chrysene	mg/kg	0.1	<0.1	0.02367370555	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.03718998545	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.01531669247	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.4	0.05731732962	4	110
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.02795121243	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.00465859612	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.03093610144	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.4	0	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.5	0.121	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.6	0.242	-	-
		Total PAH (18)	mg/kg	0.8	33	0	-	-
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.50987918747	-	106
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.47336062266	-	102
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.50839765956	-	104

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259729.001	LB302599.004	Arochlor 1016	mg/kg	0.2	<0.2	0	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	0	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	0	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	0	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	0	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	0	-	-
		Arochlor 1260	mg/kg	0.2	0.4	0	0.4	107
		Arochlor 1262	mg/kg	0.2	<0.2	0	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	0	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	0	-	-
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0.11617800776	74

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259729.001	LB302611.004	Arsenic, As	mg/kg	1	54	7.46953551912	50	92
		Cadmium, Cd	mg/kg	0.3	43	0.04387978142	50	87
		Chromium, Cr	mg/kg	0.5	59	13.88645491803	50	89
		Copper, Cu	mg/kg	0.5	63	13.89742486338	50	97
		Nickel, Ni	mg/kg	0.5	53	7.05467213114	50	91
		Lead, Pb	mg/kg	1	59	15.60075819672	50	86
		Zinc, Zn	mg/kg	2	72	29.06686475408	50	86

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259729.001	LB302599.004	TRH C10-C14	mg/kg	20	50	4.27587217347	40	115
		TRH C15-C28	mg/kg	45	59	17.93537043970	40	104
		TRH C29-C36	mg/kg	45	87	56.75572630927	40	75
		TRH C37-C40	mg/kg	100	<100	2.74283295619	-	-
		TRH C10-C36 Total	mg/kg	110	200	56.75572630927	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	-	-
		TRH >C10-C16	mg/kg	25	52	5.03644976964	40	117
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	52	0	-	-
		TRH >C16-C34 (F3)	mg/kg	90	97	36.13459879208	40	78
		TRH >C34-C40 (F4)	mg/kg	120	<120	10.53637651198	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE259729.001	LB302603.004	Monocyclic	Benzene	mg/kg	0.1	4.6	0.01432030367	5	91
		Aromatic	Toluene	mg/kg	0.1	4.5	0.01380370297	5	91
			Ethylbenzene	mg/kg	0.1	4.7	0.01663199947	5	94
			m/p-xylene	mg/kg	0.2	9.5	0.03836142157	10	95

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE259729.001	LB302603.004	Monocyclic	o-xylene	mg/kg	0.1	4.8	0.02069910177	5	96
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	0.00235225789	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	7.34157870317	10	91
			d8-toluene (Surrogate)	mg/kg	-	7.8	7.57293814552	10	78
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.65757364508	10	86
		Totals	Total BTEX*	mg/kg	0.6	28	0	-	-
			Total Xylenes*	mg/kg	0.3	14	0.05906052335	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE259729.001	LB302603.004	TRH C6-C10	mg/kg	25	110	0	92.5	122	
		TRH C6-C9	mg/kg	20	110	0	80	132	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	7.34157870317	10	91
			d8-toluene (Surrogate)	mg/kg	-	7.8	7.57293814552	10	78
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.65757364508	-	86
		VPH F	Benzene (F0)	mg/kg	0.1	4.6	0.01432030367	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	84	0	62.5	135

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service .
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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ANALYTICAL REPORT



Accreditation No. 2562

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Project **S-05667.064**
Order Number **S-05667.064**
Samples 9

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SGS Reference **SE259730 R0**
Date Received 29 Jan 2024
Date Reported 07 Feb 2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420. Report No. ME346166

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE259730.001	EDP-DSI-M7.007 BH04-0.2	Soil	141g Clay, Sand, Rocks	29 Jan 2024	05 Feb 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE259730.002	EDP-DSI-M7.007 BH07-0.2	Soil	111g Clay, Sand, Soil, Rocks	29 Jan 2024	05 Feb 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE259730.003	EDP-DSI-M7.007 BH07-1.0	Soil	124g Clay, Sand, Soil, Rocks	29 Jan 2024	05 Feb 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE259730.004	EDP-DSI-M7.007 BH08-0.2	Soil	110g Clay, Sand, Rocks	29 Jan 2024	05 Feb 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE259730.005	EDP-DSI-M7.007 BH08-1.0	Soil	81g Clay, Sand, Rocks	29 Jan 2024	05 Feb 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE259730.006	EDP-DSI-M7.007 BH09-0.2	Soil	104g Clay, Sand, Rocks	29 Jan 2024	05 Feb 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE259730.007	EDP-DSI-M7.007 BH09-1.0	Soil	30g Clay, Sand, Rocks	29 Jan 2024	05 Feb 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE259730.008	EDP-DSI-M7.007 BH10-0.2	Soil	177g Clay, Sand, Rocks	29 Jan 2024	05 Feb 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE259730.009	EDP-DSI-M7.007 BH10-1.0	Soil		29 Jan 2024	05 Feb 2024	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD

METHODOLOGY SUMMARY

AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states: "Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service.
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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CLIENT DETAILS

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Client SGS I&E SYDNEY
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 Alexandria
 NSW 2015

Telephone 02 8594 0400
Facsimile 02 8594 0499
Email au.environmental.sydney@sgs.com

Project **S-05667.064**
Order Number **SE259730**
Samples 9

LABORATORY DETAILS

Manager Adam Atkinson
Laboratory SGS Melbourne EH&S
Address 10/585 Blackburn Road
 Notting Hill Victoria 3168

Telephone +61395743200
Facsimile +61395743399
Email Au.SampleReceipt.Melbourne@sgs.com

SGS Reference **ME346166 R0**
Date Received 31 Jan 2024
Date Reported 07 Feb 2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562 (14420/22793/24472).

SIGNATORIES



Andrew WRIGHT
 Senior Chemist

Parameter	Units	LOR	Sample Number	ME346166.001	ME346166.002	ME346166.003	ME346166.004
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	29 Jan 2024	29 Jan 2024	29 Jan 2024	29 Jan 2024
			Sample Name	SE259730.001	SE259730.002	SE259730.003	SE259730.004

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples Method: MA-1523 Tested: 1/2/2024

Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.0016	<0.0008	<0.0008	<0.0008
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	101	103	100	102
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	105	104	103	103
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	101	99	102	93
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	97	98	101	92
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	101	87	98	86
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	98	110	101	90
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	98	97	86	82
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	99	106	92	77

Moisture Content Method: AN002 Tested: 1/2/2024

% Moisture	%w/w	1	30.3	14.6	14.1	8.5
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Parameter	Units	LOR	Sample Number	ME346166.005	ME346166.006	ME346166.007	ME346166.008
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	29 Jan 2024	29 Jan 2024	29 Jan 2024	29 Jan 2024
			Sample Name	SE259730.005	SE259730.006	SE259730.007	SE259730.008

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples Method: MA-1523 Tested: 1/2/2024

Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	101	102	102	102
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	104	104	107	103
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	91	101	96	110
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	93	93	94	100
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	95	93	89	117
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	100	98	93	95
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	90	85	92	96
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	102	89	115	110

Moisture Content Method: AN002 Tested: 1/2/2024

% Moisture	%w/w	1	11.3	12.5	15.1	25.0
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Sample Number ME346166.009
Sample Matrix Soil
Sample Date 29 Jan 2024
Sample Name SE259730.009

Parameter Units LOR

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples Method: MA-1523 Tested: 1/2/2024

Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	102
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	104
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	90
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	90
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	94
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	100
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	96
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	119

Moisture Content Method: AN002 Tested: 1/2/2024

% Moisture	%w/w	1	15.5
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MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Moisture Content **Method: ME-(AU)-[ENV]AN002**

Parameter	QC Reference	Units	LOR	DUP %RPD
% Moisture	LB071258	%w/w	1	5 - 23%

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples **Method: MA-1523**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
Perfluoropentanoic acid (PFPeA)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
Perfluorohexanoic acid (PFHxA)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
Perfluoroheptanoic acid (PFHpA)	LB071248	mg/kg	0.0016	<0.0016	0%	61%
Perfluorooctanoic Acid (PFOA)	LB071248	mg/kg	0.0008	<0.0008	0%	51%
Perfluorobutane sulfonate (PFBS)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
Perfluoroheptane sulfonate (PFHpS)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
Perfluorooctane sulfonate (PFOS)	LB071248	mg/kg	0.0016	<0.0016	0%	61%
Sum PFOS and PFHXS	LB071248	mg/kg	0.0016	<0.0016	0%	NA
Perfluorononane sulfonate (PFNS)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB071248	mg/kg	0.0016	<0.0016	0%	NA
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB071248	%	-	102%	0 - 2%	99%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB071248	%	-	103%	3 - 4%	103%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB071248	%	-	92%	5 - 7%	97%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB071248	%	-	92%	12 - 15%	98%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB071248	%	-	87%	9 - 25%	99%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB071248	%	-	111%	7 - 8%	86%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB071248	%	-	110%	3 - 21%	83%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB071248	%	-	93%	6 - 11%	92%

METHOD

METHODOLOGY SUMMARY

AN002

The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.

MA-1523

This method covers the analysis of per- and polyfluoroalkyl substances (PFAS) in aqueous, solid and biosolid samples and solvent extracts, determined as the total of linear and branched isomers. After spiking with isotopically labelled quantification surrogates and clean-up via SPE cartridges sample extracts are analysed by liquid chromatography/mass spectrometry (LC-MS/MS). PFAS concentrations are determined by isotope dilution quantification.

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
***	Indicates that both * and ** apply.	-	The sample was not analysed for this analyte
		NVL	Not Validated

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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Request for Laboratory Services and Chain of Custody Form

Received Date: 6/2/24 Received By: G.F Cooling Method: ☒ Ice ☐ Icepack ☐ None Samples Intact: ☒ Yes ☐ No
 Logged-in Date: _____ Time of Receipt: 1:45 Cooler Sealed: ☒ Yes ☐ No ☐ N/A Temperature: ☐ Ambient ☒ Chilled

COD must pay via cheque or credit card before analysis is commenced. AMEX & DINERS cards incur a 5% surcharge

Name:	Cristiane Florido	E-MAILED 8/2/24 @ 10:35 am
Company:	EDP Consultants Pty Ltd	
Address:	Level 4 38 Oxley Street	
St Leonards NSW 2085		
Email:	invoices@edp-au.com ; Project_admin@edp-au.com ; Cristiane.Florido@edp-au.com	
Phone:	0413 378 102	Fax:

Quote #:

Attached Parameter List: ☐ Yes ☐ No

Replacement Sample Containers Required:

Results Required By:	Standar TA	Urgent TA requires lab approval
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Notes:

Project No.:

S-05667.065

Company Name: EDP Consultants Pty Ltd

ontact Name: Cristiane Florido

Samplers:	Lucy Mercer
------------------	-------------

Address: Level 4 38 Oxley Street, St Leonards NSW 2065

Phone Number: 0413 378 102 / 0401 448 367

After Hours Phone Number:	NA
---------------------------	----

ix Number: NA

cristiane.florido@edp-au.com; lucy.mercer@edp-au.com

Note: Results will be sent via email to an unlimited number of addresses for no additional fee. In the absence of email, fax is available upon request.

dicating results format (please check one):

Email & Escalate

Fax

□

SAMPLE INFORMATION

Analysis Requested

[illegible]

impled By:

Lucy Mercer

Date: 2/02/2024

Relinquished By:

Dropped by Lucy Mercer

Date: 2/02/2024

Time:

5:30 PM



SAMPLE RECEIPT ADVICE

SE260233

CLIENT DETAILS

Contact Cristiane Florido
Client EDP CONSULTANTS PTY LTD
Address LEVEL 4, 38 OXLEY STREET
ST LEONARDS NSW 2065

Telephone 61 2 84845810
Facsimile (Not specified)
Email cristiane.florido@edp-au.com

Project **S-05667.073**
Order Number **S-05667.073**
Samples 2

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Tue 6/2/2024
Report Due Thu 15/2/2024
SGS Reference **SE260233**

SUBMISSION DETAILS

This is to confirm that 2 samples were received on Tuesday 6/2/2024. Results are expected to be ready by COB Thursday 15/2/2024. Please quote SGS reference SE260233 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	2 Soil	Type of documentation received	COC
Date documentation received	8/2/2024 @10:35am	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	24.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420. Report No.

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SAMPLE RECEIPT ADVICE

SE260233

CLIENT DETAILS

Client **EDP CONSULTANTS PTY LTD**

Project **S-05667.073**

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Soil	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	EDP-DSI.M7.007.BH03_0.4	2	30	14	26	11	10	11	7
002	EDP-DSI.M7.007.BH03_1.0	2	30	14	26	11	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE260233

CLIENT DETAILS

Client EDP CONSULTANTS PTY LTD

Project S-05667.073

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	Per- and Polyfluoroalkyl Substances (PFAS) in	Total Recoverable Elements in Soil/Waste
001	EDP-DSI.M7.007.BH03_0.4	3	1	1	23	7
002	EDP-DSI.M7.007.BH03_1.0	3	1	1	23	7

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .

COC#: SE260233

Ship to: XML

Client: EDP CONSULTANTS PTY LT 42565904_18072267

Due date: 2/15/2024 1:45:00 PM
Send Results to: AUVENSE

Carrier:

Airbill #:

SGS Alexandria Environmental
SE260233 SUBCON
Received: 06 - Feb - 2024

Cooler temperature:

Special Instructions/Comments:

Job Booked by: RV 8/2

Loggin Checked by: XGS 8/2/24

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date:	#3 Released by: (Sig)	Date:
Company Name:	Time	Company Name:	Time	Company Name:	Time
#1 Received by: (Sig)	Date	#2 Received by: (Sig)	Date	#3 Received by: (Sig)	Date
Company Name:	Time:	Company Name:	Time:	Company Name:	Time:



STATEMENT OF QA/QC PERFORMANCE

SE260233 R0

CLIENT DETAILS

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Project **S-05667.073**
Order Number **S-05667.073**
Samples 2

LABORATORY DETAILS

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SGS Reference **SE260233 R0**
Date Received 06 Feb 2024
Date Reported 16 Feb 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	Conductivity and TDS by Calculation - Soil	2 items
Analysis Date	Conductivity and TDS by Calculation - Soil	4 items
Surrogate	VOC's in Soil	1 item
	Volatile Petroleum Hydrocarbons in Soil	1 item
Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	2 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
	VOC's in Soil	2 items
	Volatile Petroleum Hydrocarbons in Soil	2 items

SAMPLE SUMMARY

Sample counts by matrix	2 Soil	Type of documentation received	COC
Date documentation received	8/2/2024 @10:35am	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	24.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303648	02 Feb 2024	06 Feb 2024	09 Feb 2024	12 Feb 2024†	09 Feb 2024	12 Feb 2024†
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303648	02 Feb 2024	06 Feb 2024	09 Feb 2024	12 Feb 2024†	09 Feb 2024	12 Feb 2024†

Fibre Identification in soil

Method: ME-(AU)-[ENV]AS4964/AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303957	02 Feb 2024	06 Feb 2024	01 Feb 2025	14 Feb 2024	01 Feb 2025	15 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303957	02 Feb 2024	06 Feb 2024	01 Feb 2025	14 Feb 2024	01 Feb 2025	15 Feb 2024

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303494	02 Feb 2024	06 Feb 2024	01 Mar 2024	08 Feb 2024	01 Mar 2024	13 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303494	02 Feb 2024	06 Feb 2024	01 Mar 2024	08 Feb 2024	01 Mar 2024	13 Feb 2024

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303489	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	13 Feb 2024	12 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303489	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	13 Feb 2024	12 Feb 2024

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303493	02 Feb 2024	06 Feb 2024	31 Jul 2024	08 Feb 2024	31 Jul 2024	13 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303493	02 Feb 2024	06 Feb 2024	31 Jul 2024	08 Feb 2024	31 Jul 2024	13 Feb 2024

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303482	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	19 Mar 2024	12 Feb 2024

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303487	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	16 Feb 2024	12 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303487	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	16 Feb 2024	12 Feb 2024

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
EDP-DSI.M7.007.BH03_0.4	SE260233.001	LB303487	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	16 Feb 2024	12 Feb 2024
EDP-DSI.M7.007.BH03_1.0	SE260233.002	LB303487	02 Feb 2024	06 Feb 2024	16 Feb 2024	08 Feb 2024	16 Feb 2024	12 Feb 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	107
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	108

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	93
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	71
d14-p-terphenyl (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	99
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	70 - 130%	93
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	70 - 130%	71
d14-p-terphenyl (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	70 - 130%	99
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	70 - 130%	98
d5-nitrobenzene (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	70 - 130%	107
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	70 - 130%	77

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	105
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	104

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	0 - 150%	104
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	0 - 150%	97
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	0 - 150%	94
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	0 - 150%	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	0 - 150%	105
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	0 - 150%	109
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	0 - 150%	99
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	0 - 150%	98

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	86
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	96
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	44 ☹
d8-toluene (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	91
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	89

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	86
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	96
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	44 ☹
d8-toluene (Surrogate)	EDP-DSI.M7.007.BH03_0.4	SE260233.001	%	60 - 130%	91
	EDP-DSI.M7.007.BH03_1.0	SE260233.002	%	60 - 130%	89

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB303648.001	Conductivity of Extract (1:5 as received)	µS/cm	1	<1
	Salinity (by calculation)*	mg/kg	5	<5

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB303494.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB303482.001	Alpha BHC	mg/kg	0.1	<0.1
	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Lindane (gamma BHC)	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	Endrin aldehyde	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endrin ketone	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	98

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB303482.001	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	2-fluorobiphenyl (Surrogate)	%	-	91
	d14-p-terphenyl (Surrogate)	%	-	104
Surrogates				

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB303482.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB303482.001	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates			
	d5-nitrobenzene (Surrogate)	%	-	101
	2-fluorobiphenyl (Surrogate)	%	-	91
	d14-p-terphenyl (Surrogate)	%	-	104

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB303482.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates			
	TCMX (Surrogate)	%	-	93

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB303493.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB303482.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB303487.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	105
		d8-toluene (Surrogate)	%	-	103
		Bromofluorobenzene (Surrogate)	%	-	102
	Totals	Total BTEX*	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result
LB303487.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260233.002	LB303648.021	Conductivity of Extract (1:5 as received)	µS/cm	1	220	190	31	17
		Salinity (by calculation)*	mg/kg	5	950	800	31	17
SE260286.016	LB303648.020	Conductivity of Extract (1:5 as received)	µS/cm	1	20	19	40	5

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.004	LB303494.014	Mercury	mg/kg	0.05	0.13	0.11	72	9
SE260233.002	LB303494.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.003	LB303489.011	% Moisture	%w/w	1	19.0	18.0	35	5
SE260233.002	LB303489.022	% Moisture	%w/w	1	23.8	22.5	34	5

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.004	LB303482.026	Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Total OC VIC EPA	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.18	0.16	30	7
SE260233.002	LB303482.024	Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260233.002	LB303482.024	p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Total OC VIC EPA	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15	30	6

OP Pesticides in Soil

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.004	LB303482.026	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
SE260233.002	LB303482.024	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	25
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.004	LB303482.026	Naphthalene	mg/kg	0.1	0.2	0.3	66	42
		2-methylnaphthalene	mg/kg	0.1	0.6	0.9	44	37
		1-methylnaphthalene	mg/kg	0.1	0.6	0.8	44	34
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	0.3	0.5	57	47
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	0.1	149	26
		Pyrene	mg/kg	0.1	<0.1	0.1	142	28
		Benzo(a)anthracene	mg/kg	0.1	<0.1	0.1	145	12

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.004	LB303482.026	Chrysene	mg/kg	0.1	<0.1	<0.1	187	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	171	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	1.7	2.9	34	52 @
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	4
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
SE260233.002	LB303482.024	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	30	31 †
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	25
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.004	LB303482.026	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
SE260233.002	LB303482.024	TCMX (Surrogate)	mg/kg	-	0	0	30	8
		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260233.002	LB303482.024	Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
	Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	30	7

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.004	LB303493.014	Arsenic, As	mg/kg	1	9	6	43	29
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	1.1	0.9	81	19
		Copper, Cu	mg/kg	0.5	5.1	5.8	39	13
		Nickel, Ni	mg/kg	0.5	2.8	1.7	52	49
		Lead, Pb	mg/kg	1	46	38	32	17
		Zinc, Zn	mg/kg	2	110	70	32	42 @
SE260233.002	LB303493.024	Arsenic, As	mg/kg	1	19	21	35	11
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	18	20	33	13
		Copper, Cu	mg/kg	0.5	25	29	32	13
		Nickel, Ni	mg/kg	0.5	13	16	34	20
		Lead, Pb	mg/kg	1	16	18	36	9
		Zinc, Zn	mg/kg	2	49	58	34	17

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.004	LB303482.026	TRH C10-C14	mg/kg	20	<20	<20	135	0
		TRH C15-C28	mg/kg	45	70	80	90	14
		TRH C29-C36	mg/kg	45	<45	48	131	6
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	130	142	15
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	191	0
	TRH F Bands	TRH >C10-C16	mg/kg	25	30	30	113	2
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	30	30	113	2
		TRH >C16-C34 (F3)	mg/kg	90	93	110	119	15
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE260233.002	LB303482.024	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
	TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260225.002	LB303487.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	9.5	50	64 ↑
			d8-toluene (Surrogate)	mg/kg	-	9.7	9.1	50	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	8.5	50	6
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE260233.002	LB303487.025	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260233.002	LB303487.025	Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	11.5	50	90 ↑
			d8-toluene (Surrogate)	mg/kg	-	8.9	11.5	50	25
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	11.1	50	28
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE260225.002	LB303487.014	TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	9.5	50	64 ↑
			d8-toluene (Surrogate)	mg/kg	-	9.7	9.1	50	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	8.5	50	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE260233.002	LB303487.025	TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	11.5	50	90 ↑
			d8-toluene (Surrogate)	mg/kg	-	8.9	11.5	50	25
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	11.1	50	28
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303648.002	Conductivity of Extract (1:5 as received)	µS/cm	1	330	303	85 - 115	110

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303494.002	Mercury	mg/kg	0.05	0.21	0.2	80 - 120	103

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303482.002	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	106
	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	102
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	103
	Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	100
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	97
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	106
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130	103

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303482.002	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	85
	Diazinon (Dimpylate)	mg/kg	0.5	1.8	2	60 - 140	88
	Dichlorvos	mg/kg	0.5	1.3	2	60 - 140	66
	Ethion	mg/kg	0.2	1.5	2	60 - 140	74
	Surrogates						
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	95
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	101

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303482.002	Naphthalene	mg/kg	0.1	4.0	4	60 - 140	99
	Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	98
	Acenaphthene	mg/kg	0.1	4.1	4	60 - 140	102
	Phenanthrene	mg/kg	0.1	4.0	4	60 - 140	100
	Anthracene	mg/kg	0.1	4.1	4	60 - 140	102
	Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	96
	Pyrene	mg/kg	0.1	4.1	4	60 - 140	103
	Benzo(a)pyrene	mg/kg	0.1	4.6	4	60 - 140	115
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	101
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	95
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	101

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303482.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	86

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303493.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	101
	Cadmium, Cd	mg/kg	0.3	3.9	4.81	70 - 130	81
	Chromium, Cr	mg/kg	0.5	36	38.31	80 - 120	95
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	107
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	96
	Lead, Pb	mg/kg	1	85	89.9	80 - 120	95
	Zinc, Zn	mg/kg	2	270	273	80 - 120	97

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303482.002	TRH C10-C14	mg/kg	20	47	40	60 - 140	117
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	109
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	83

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303482.002	TRH F Bands	TRH >C10-C16	mg/kg	25	47	40	60 - 140 118
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140 96
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140 80

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303487.002	Monocyclic	Benzene	mg/kg	0.1	3.8	5	60 - 140 76
		Aromatic					
	Aromatic	Toluene	mg/kg	0.1	3.9	5	60 - 140 78
		Ethylbenzene	mg/kg	0.1	3.9	5	60 - 140 78
		m/p-xylene	mg/kg	0.2	7.9	10	60 - 140 79
		o-xylene	mg/kg	0.1	4.0	5	60 - 140 80
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	10	70 - 130 90
		d8-toluene (Surrogate)	mg/kg	-	8.5	10	70 - 130 85
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	10	70 - 130 86

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303487.002	TRH C6-C10	TRH C6-C10	mg/kg	25	69	92.5	60 - 140 75
		TRH C6-C9	mg/kg	20	61	80	60 - 140 76
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	10	70 - 130 90
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	10	70 - 130 86
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	45	62.5	60 - 140 73

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303494.004	Mercury	mg/kg	0.05	0.19	<0.05	0.2	86

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303482.004	Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	117
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	111
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	110
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	108
		Endrin	mg/kg	0.2	0.2	<0.2	0.2	106
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	119
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Total OC VIC EPA	mg/kg	1	1	<1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15	-	109

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303482.004	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	<0.2	2	87
		Diazinon (Dimpylate)	mg/kg	0.5	1.8	<0.5	2	88
		Dichlorvos	mg/kg	0.5	1.4	<0.5	2	72
		Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
		Ethion	mg/kg	0.2	1.6	<0.2	2	81
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
		Malathion	mg/kg	0.2	<0.2	<0.2	-	-
		Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
		Total OP Pesticides*	mg/kg	1.7	6.6	<1.7	-	-
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	99
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	104

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303482.004	Naphthalene	mg/kg	0.1	3.8	<0.1	4	96
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	3.9	<0.1	4	97
		Acenaphthene	mg/kg	0.1	4.0	<0.1	4	99
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303482.004	Phenanthrene	mg/kg	0.1	3.8	<0.1	4	95
		Anthracene	mg/kg	0.1	3.8	<0.1	4	95
		Fluoranthene	mg/kg	0.1	3.7	<0.1	4	93
		Pyrene	mg/kg	0.1	4.0	<0.1	4	99
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.4	<0.1	4	110
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.4	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.5	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.6	<0.3	-	-
		Total PAH (18)	mg/kg	0.8	31	<0.8	-	-
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	106
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	99
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	104

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303482.004	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.4	<0.2	0.4	93
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
	Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	-	105

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303493.004	Arsenic, As	mg/kg	1	54	3	50	101
		Cadmium, Cd	mg/kg	0.3	51	<0.3	50	101
		Chromium, Cr	mg/kg	0.5	63	19	50	89
		Copper, Cu	mg/kg	0.5	59	7.7	50	103
		Nickel, Ni	mg/kg	0.5	56	5.3	50	102
		Lead, Pb	mg/kg	1	57	11	50	92
		Zinc, Zn	mg/kg	2	67	26	50	81

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303482.004	TRH C10-C14	mg/kg	20	50	<20	40	120
		TRH C15-C28	mg/kg	45	51	<45	40	115
		TRH C29-C36	mg/kg	45	53	<45	40	87
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	150	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH >C10-C16	mg/kg	25	50	<25	40	120
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	50	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	104
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303487.004	Monocyclic	Benzene	mg/kg	0.1	3.9	<0.1	5	78
		Aromatic	Toluene	mg/kg	0.1	4.8	<0.1	5	96
			Ethylbenzene	mg/kg	0.1	4.5	<0.1	5	90
			m/p-xylene	mg/kg	0.2	9.2	<0.2	10	92

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260179.001	LB303487.004	Monocyclic	o-xylene	mg/kg	0.1	4.7	<0.1	5	94
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.4	9.2	10	114
			d8-toluene (Surrogate)	mg/kg	-	9.9	8.8	10	99
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	8.4	10	94
		Totals	Total BTEX*	mg/kg	0.6	27	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	14	<0.3	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE260179.001	LB303487.004	TRH C6-C10	mg/kg	25	86	<25	92.5	93	
		TRH C6-C9	mg/kg	20	76	<20	80	95	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.4	9.2	10	114
			d8-toluene (Surrogate)	mg/kg	-	9.9	8.8	10	99
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	8.4	-	94
		VPH F	Benzene (F0)	mg/kg	0.1	3.9	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	59	<25	62.5	94

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service.
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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Project **S-05667.073**
Order Number **S-05667.073**
Samples 2

LABORATORY DETAILS

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SGS Reference **SE260233 R0**
Date Received 06 Feb 2024
Date Reported 16 Feb 2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420. Report No. ME347416.

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES



Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE260233.001	EDP-DSI.M7.007 .BH03_0.4	Soil	148g Clay, Sand, Soil, Rocks	02 Feb 2024	15 Feb 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE260233.002	EDP-DSI.M7.007 .BH03_1.0	Soil	43g Clay, Sand, Rocks	02 Feb 2024	15 Feb 2024	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD

METHODOLOGY SUMMARY

AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states: "Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service.
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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Project **S-05667.073**
Order Number **SE260233**
Samples 2

LABORATORY DETAILS

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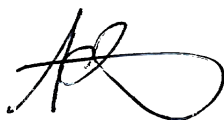
Telephone +61395743200
Facsimile +61395743399
Email Au.SampleReceipt.Melbourne@sgs.com

SGS Reference **ME347416 R0**
Date Received 09 Feb 2024
Date Reported 16 Feb 2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562 (14420/22793/24472).

SIGNATORIES



Adam ATKINSON
 Australian Chemistry Manager



Andrew WRIGHT
 Senior Chemist

		Sample Number	ME347416.001	ME347416.002
		Sample Matrix	Soil	Soil
		Sample Date	02 Feb 2024	02 Feb 2024
		Sample Name	SE260233.001	SE260233.002
Parameter	Units	LOR		

Moisture Content Method: AN002 Tested: 13/2/2024

% Moisture	%w/w	1	21.6	16.5
------------	------	---	------	------

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples Method: MA-1523 Tested: 13/2/2024

Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	0.0020	0.0024
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	0.0022	0.0018
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	0.0023	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.016	0.0060
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	101	100
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	99	101
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	109	109
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	105	105
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	94	100
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	104	95
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	97	101
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	98	105

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Moisture Content **Method: ME-(AU)-[ENV]AN002**

Parameter	QC Reference	Units	LOR	DUP %RPD
% Moisture	LB071699	%w/w	1	12%

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples **Method: MA-1523**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
Perfluoropentanoic acid (PFPeA)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
Perfluorohexanoic acid (PFHxA)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
Perfluoroheptanoic acid (PFHpA)	LB071690	mg/kg	0.0016	<0.0016	0%	70%
Perfluorooctanoic Acid (PFOA)	LB071690	mg/kg	0.0008	<0.0008	0%	82%
Perfluorobutane sulfonate (PFBS)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
Perfluoroheptane sulfonate (PFHpS)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
Perfluorooctane sulfonate (PFOS)	LB071690	mg/kg	0.0016	<0.0016	0%	71%
Sum PFOS and PFHXS	LB071690	mg/kg	0.0016	<0.0016	0%	NA
Perfluorononane sulfonate (PFNS)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB071690	mg/kg	0.0016	<0.0016	0%	NA
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB071690	%	-	99%	2%	101%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB071690	%	-	99%	3%	101%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB071690	%	-	109%	5%	111%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB071690	%	-	107%	1%	108%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB071690	%	-	102%	2%	100%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB071690	%	-	94%	12%	101%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB071690	%	-	97%	2%	96%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB071690	%	-	88%	5%	102%

METHOD

METHODOLOGY SUMMARY

AN002

The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.

MA-1523

This method covers the analysis of per- and polyfluoroalkyl substances (PFAS) in aqueous, solid and biosolid samples and solvent extracts, determined as the total of linear and branched isomers. After spiking with isotopically labelled quantification surrogates and clean-up via SPE cartridges sample extracts are analysed by liquid chromatography/mass spectrometry (LC-MS/MS). PFAS concentrations are determined by isotope dilution quantification.

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
***	Indicates that both * and ** apply.	-	The sample was not analysed for this analyte
		NVL	Not Validated

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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CHAIN OF CUSTODY RECORD

COC#: SE260233

Owner job:

Ship to: XML	Project Name:	Due date: 15/02/2024 1:45:00 PM Send Results to: AUENVSE
	Client: EDP CONSULTANTS PTY LT 42565904_18072267	
	Sampler Name: Lucy Mercer	
Carrier:	Airbill #:	

Field Sample ID	Client ID	Date sampling	Time	Matrix	# of Containers	Analyses Requested										Comments
						152301										
SE260233.001	EDP-DSI.M7.007.BH03_0.4	2/02/2024	0:00:00	Soil		X										SGS EHS Melbourne COC ME347416  SE260233 SUBCON Received: 06 – Feb – 2024
SE260233.002	EDP-DSI.M7.007.BH03_1.0	2/02/2024	0:00:00	Soil		X										

Sample Condition Upon Receipt at Laboratory:	Cooler temperature:
Special Instructions/Comments: Job Booked by: RV 8/2 Loggin Checked by: XGS 8/2/24	

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date:	#3 Released by: (Sig)	Date:
Company Name:	Time	Company Name:	Time	Company Name:	Time
#1 Received by: (Sig) MADELINE TONG	Date 9/2	#2 Received by: (Sig)	Date	#3 Received by: (Sig)	Date
Company Name:	Time: 10AM	Company Name:	Time:	Company Name:	Time:

SGS Notting Hill Bottle Map for Water & Soil Samples

Temperature 19.7 °C Ice Brick 0 Ice 1 Ice Pack 0 Esky 1 Bag 0 Box 0 Bucket 0

Name + Date MADEUNE JONG 9/2 10PM

Bottle Type And Preservation Type

Sample ID	Tray #	Soil	Water	Oil	1L Unpreserved Plastic	1L HNO3 Preserved Plastic	1L Unpreserved Glass	500mL Unpreserved Plastic	500mL Unpreserved Glass	250mL Unpreserved Plastic Bottle	250mL Unpreserved Plastic Jar	250mL H2SO4 Plastic	250mL Zn acetate & NaOH Plastic	250mL Unpreserved Glass Jar	200mL Unpreserved Glass	150mL Unpreserved Plastic Jar	125mL Unpreserved Plastic Bottle	125mL HNO3 (Filtered) Plastic (Dissolved meta	125mL HNO3 (Unfiltered) Plastic (Total Metals)	125mL NaOH Preserved Plastic Bottle	125mL H2SO4 Plastic	125mL Unpreserved Glass Jar	100mL Unpreserved Glass	70mL Unpreserved Plastic Container	50mL Unpreserved Plastic	40mL Unpreserved Glass vial	40mL Na2S2O3 Glass vial	40mL H2SO4 Glass vial	40mL NH4Cl Glass vial	40mL Diluted HCl Glass vial	10mL Unpreserved Glass	Plastic bag	Number of labels to be printed per sample ID
1 SE260233.001	L3	X																															1
2	↓	↓																						↓									1
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	

Comments:



SAMPLE RECEIPT ADVICE

ME347416

CLIENT DETAILS

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Project **S-05667.073**
Order Number **SE260233**
Samples 2

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Samples Received Fri 9/2/2024
Report Due Thu 15/2/2024
SGS Reference **ME347416**

SUBMISSION DETAILS

This is to confirm that 2 samples were received on Friday 9/2/2024. Results are expected to be ready by COB Thursday 15/2/2024. Please quote SGS reference ME347416 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	2 Soil	Type of documentation received	COC
Date documentation received	9/2/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	19.7 °C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	1 Ice	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	1

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

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SAMPLE RECEIPT ADVICE

ME347416

CLIENT DETAILS

Client **SGS I&E SYDNEY**

Project **S-05667.073**

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content	Per- and Polyfluoroalkyl Substances (PFAS) in
001	SE260233.001	1	23
002	SE260233.002	1	23

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .

APPENDIX G: RESULTS TABLES

TABLE G1: SUMMARY OF SOIL ANALYTICAL RESULTS

Analytes					Asbestos	BTEX								ted Benzenes	TRH								PAH																
					Asbestos Fibres	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Hexachlorobenzene	C6-Cl0 Fraction (F1)	C6-Cl0 (F1 minus BTEX)	>Cl0-Cl6 Fraction (F2)	>Cl0-Cl6 Fraction (F2 minus Naphthalene)	>Cl6-Cl34 Fraction (F3)	>Cl34-Cl40 Fraction (F4)	>Cl0-Cl40 Fraction (Sum)	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b+1)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene
-	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	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	
PQL	Detect	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.6	0.1	25	25	25	25	90	120	210	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
PFAS NEMP 2020 Industrial/ commercial (HIL D)																																							
PFAS NEMP 2020 Ecological direct exposure																																							
PFAS NEMP 2020 Ecological indirect exposure																																							
NEMP 2013 HIL D - Comm/Ind Soil										80																													
NEMP 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=0m, <1m			3					330				260 370 630																											
NEMP 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=1m, <2m			3					230				260																											
NEMP 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil											700		1,000		3,500	10,000																							
NEMP 2013 Table 1B (1-6) EILs/ESLs for Commercial/Industrial (coarse soil)			370																																				
NEMP 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m			75	135	165			180				215	170	170	1,700	3,300																							
Lab Report Number	Lab Name	Field ID	Date	Depth (mbgl)																																			
SE260233	SGS	EDP-DSI.M7.007.BH03_0.4	02 Feb 2024	0.4	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE260233	SGS	EDP-DSI.M7.007.BH03_1.0	02 Feb 2024	1.0	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259730	SGS	EDP-DSI-M7.007BH04-0.2	29 Jan 2024	0.2	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259730	SGS	EDP-DSI-M7.007BH07-0.2	29 Jan 2024	0.2	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259730	SGS	EDP-DSI-M7.007BH07-1.0	29 Jan 2024	1.0	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259730	SGS	EDP-DSI-M7.007BH08-0.2	29 Jan 2024	0.2	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259730	SGS	EDP-DSI-M7.007BH08-1.0	29 Jan 2024	1.0	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259730	SGS	EDP-DSI-M7.007BH09-0.2	29 Jan 2024	0.2	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259730	SGS	EDP-DSI-M7.007BH09-1.0	29 Jan 2024	1.0	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259730	SGS	EDP-DSI-M7.007BH10-0.2	29 Jan 2024	0.2	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259730	SGS	EDP-DSI-M7.007BH10-1.0	29 Jan 2024	1.0	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH154_0.5	16 Jan 2024	0.5	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	260	330	590	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH154_1.0	16 Jan 2024	1.0	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH154_1.5	16 Jan 2024	1.5	NT	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	NT	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH154_2.0	16 Jan 2024	2.0	NT	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	NT	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH155_0.5	16 Jan 2024	0.5	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH155_1.0	16 Jan 2024	1.0	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH155_1.5	16 Jan 2024	1.5	NT	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	NT	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH155_2.0	16 Jan 2024	2.0	NT	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	NT	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH155_2.5	16 Jan 2024	2.5	NT	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	NT	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE259300	SGS	EDP-M7.DSI.BH155_3.0	16 Jan 2024	3.0	NT	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	NT	<25	<25	<25	<25	<90	<120	<210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
* NT = Not tested																																							
* ND = No Detect																																							
Statistics																																							
Maximum Concentration					ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<25	<25	<25	<25	260	330	590	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.3	0.3
* A Non Detect Multiplier of 0.5 has been applied.																																							

TABLE G1: SUMMARY OF SOIL ANALYTICAL RESULTS



Analytes					PAH					Metals							Moderately Harmful Pesticides					Pesticides			Scheduled Chemicals																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
					Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	PAHs (Sum of positives)	Arsenic	Cadmium	Chromium (II+VI)	Copper	Lead	Mercury	Nickel	Zinc	Dichlorvos	Dimethoate	Ethion	Fenitrothion	Malathion	Iodrin	Mirex	Parathion	α-BHC	Aldrin	β-BHC	Chlordane (cis)	δ-BHC	DDD	DDT	Dieldrin	Endrin	Endrin aldehyde	γ-BHC (Lindane)	Heptachlor	Heptachlor epoxide																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
PQL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

TABLE G I: SUMMARY OF SOIL ANALYTICAL RESULTS

Analytes					OCP																	OPP							PCBs												Asbestos		PFAS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
					Organochlorine pesticides (PAVic																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g/kg	-	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg	mg/kg	µg/kg																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
					I	0.1	0.1	0.1	0.2	0.2	0.1	0.1		0.1	0.1	0.2	0.2	0.2	0.5	0.5	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0

TABLE G1: SUMMARY OF SOIL ANALYTICAL RESULTS



Analytes						PFAS								Inorganics			Acid Sulfates Soil			
						Perfluorooctanoic acid (PFOA)	Sum of PFHxS and PFOS	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Conductivity (1:5 aqueous extract)	% Moisture	Salinity	pHF	pHFOX	pHF - pHFOX	Reaction
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µS/cm	%	mg/kg	-	-	-	-
PQL						0.0008	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	1	1	5				
PFAS NEMP 2020 Industrial/ commercial (HIL D)						50	20				20		20							
PFAS NEMP 2020 Ecological direct exposure						10							1							
PFAS NEMP 2020 Ecological indirect exposure													0.01							
NEPM 2013 HIL D - Comm/Ind Soil																				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=0m, <1m																				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=1m, <2m																				
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																				
NEPM 2013 Table 1B (1-6) EILs/ESLs for Commercial/Industrial (coarse soil)																				
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m																				
Lab Report Number	Lab Name	Field ID	Date	Depth (mbgl)																
SE260233	SGS	EDP-DSI.M7.007.BH03_0.4	02 Feb 2024	0.4		0.016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	34	16.4	130	6.96	6.12	0.84	1
SE260233	SGS	EDP-DSI.M7.007.BH03_1.0	02 Feb 2024	1.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	220	23.8	950	6.67	6.14	0.53	1
SE259730	SGS	EDP-DSI-M7.007BH04-0.2	29 Jan 2024	0.2		0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	100	28.5	460	6.20	6.1	0.1	1
SE259730	SGS	EDP-DSI-M7.007BH07-0.2	29 Jan 2024	0.2		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	150	14.3	560	6.01	5.86	0.15	2
SE259730	SGS	EDP-DSI-M7.007BH07-1.0	29 Jan 2024	1.0		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	350	16.7	1,400	6.32	5.75	0.57	1
SE259730	SGS	EDP-DSI-M7.007BH08-0.2	29 Jan 2024	0.2		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	150	8.9	520	6.83	6	0.83	1
SE259730	SGS	EDP-DSI-M7.007BH08-1.0	29 Jan 2024	1.0		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	260	10.1	940	6.36	6.36	0	1
SE259730	SGS	EDP-DSI-M7.007BH09-0.2	29 Jan 2024	0.2		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	38	14.4	150	6.79	6.79	0	2
SE259730	SGS	EDP-DSI-M7.007BH09-1.0	29 Jan 2024	1.0		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	350	14	1,300	6.65	6.43	0.22	1
SE259730	SGS	EDP-DSI-M7.007BH10-0.2	29 Jan 2024	0.2		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	52	13.9	200	6.85	6.32	0.53	1
SE259730	SGS	EDP-DSI-M7.007BH10-1.0	29 Jan 2024	1.0		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	400	16	1,500	6.19	6.12	0.07	1
SE259300	SGS	EDP-M7.DSI.BH154_0.5	16 Jan 2024	0.5		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	250	10.1	910	6.75	6.54	0.21	2
SE259300	SGS	EDP-M7.DSI.BH154_1.0	16 Jan 2024	1.0		0.001	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	160	9.5	560	6.96	6.74	0.22	1
SE259300	SGS	EDP-M7.DSI.BH154_1.5	16 Jan 2024	1.5	NT	NT	NT	NT	NT	NT	NT	NT	NT	270	14.5	1,000	6.75	6.85	-0.1	1
SE259300	SGS	EDP-M7.DSI.BH154_2.0	16 Jan 2024	2.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	220	16.1	850	6.96	6.12	0.84	2
SE259300	SGS	EDP-M7.DSI.BH155_0.5	16 Jan 2024	0.5		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	390	10.2	1,400	6.47	6.55	-0.08	1
SE259300	SGS	EDP-M7.DSI.BH155_1.0	16 Jan 2024	1.0		<0.0008	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	200	9.4	730	6.38	6.37	0.01	1
SE259300	SGS	EDP-M7.DSI.BH155_1.5	16 Jan 2024	1.5	NT	NT	NT	NT	NT	NT	NT	NT	NT	500	18	2,000	6.92	6.45	0.47	2
SE259300	SGS	EDP-M7.DSI.BH155_2.0	16 Jan 2024	2.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	470	17.6	1,900	6.76	6.45	0.31	1
SE259300	SGS	EDP-M7.DSI.BH155_2.5	16 Jan 2024	2.5	NT	NT	NT	NT	NT	NT	NT	NT	NT	460	17.8	1,800	6.27	5.89	0.38	1
SE259300	SGS	EDP-M7.DSI.BH155_3.0	16 Jan 2024	3.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	470	15.8	1,800	6.53	5.99	0.54	1
* NT = Not tested																				
* ND = No Detect																				
Statistics																				
Maximum Concentration						0.016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	500	28.5	2,000				
* A Non Detect Multiplier of 0.5 has been applied.																				
Environmental Standards																				
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)																				
HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure																				
HEPA, January 2020, PFAS NEMP 2020 Ecological indirect exposure																				
2013, NEPM 2013 HIL D - Comm/Ind Soil																				
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																				
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																				
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																				

APPENDIX H: CALIBRATION CERTIFICATES

Certificate of Service and Calibration

Gas Detector
MiniRAE 3000

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	MiniRAE 3000 (PGM 7320)
Serial Number	592-920878
Client Name	Gonzalo Serna Diaz (EDP)
Project Number	S-05667

Instrument Check			
Item	Test	Test Passed	Comments
Li-Ion Rechargeable Battery	Battery Charge and Drain	✓	Unit runs for > 8 hours on a full charge
Charger and Power Supply	Operation/Check	✓	No damage
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Pump	Flow Check	✓	Flow rate > 0.5 L/min
Monitor Housing	Condition/Check	✓	No damage
Rubber Boot	Check	✓	Clean, no damage
Flexi Probe	Condition/Check	✓	No leaks, no damage
Water Trap Filter	Visual Check	✓	Clean
Alarms	Audible, Visual, Vibration Check	✓	All modes of alarms are functional
Data Logger	Operation	✓	Unit records data, default set at 60 seconds
Lamp and Sensor	Clean and Calibration	✓	Lamp and PID sensor cleaned and calibrated
PCB	Operation	✓	Unit is fully functional
Firmware	Version	✓	v2.20A

Instrument Readings					
Parameter	Calibration Gas	Concentration	Reference No.	Zero Reading	Span Reading
PID (10.6eV)	Isobutylene	100 ppm	WO383117-18	0 ppm	100.8 ppm

Declaration	
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using gases of known concentrations.	

Calibrated By	William Pak
Calibration Date	10/12/2023
Calibration Due	10/06/2024

APPENDIX I: QUALITY ASSURANCE / QUALITY CONTROL

QUALITY ASSURANCE / QUALITY CONTROL

EDP acknowledges an oversight in the quality assurance / quality control sampling process for this DSI. Due to the urgent response time to the client's request for sampling in the subject area, EDP could not organise laboratory preparation of a trip spike sample or the collection of bottles and vials for a rinsate sample. As such, a trip spike and a rinsate sample were not used and analysed and the sample integrity during travel or cross-contamination from sampling equipment could not be assessed for this DSI.

Based on the volume of samples collected for this DSI, one field duplicate and one field triplicate sample should have been collected and analysed to estimate the variability of a given characteristic or contaminant associated with the samples. However, due to an oversight during the fieldwork, these samples were not collected.

A. Sampling Procedures

Fieldwork was undertaken by experienced EDP environmental consultants in accordance with work practices defined by industry accepted standard practice and NEPM 2013.

Disposable nitrile gloves were used during the sampling process and changed between each sample collected. Samples were collected directly from the bottom of the borehole after advancement using an electronic hand auger. Samples beyond 0.4 mbgl were collected directly from the auger.

Phosphate-free detergent was used to clean sampling instruments between sample locations. The sampling instruments were rinsed in deionised water and then sprayed with deionised water to minimise the potential for cross-contamination to occur.

Samples were placed directly into laboratory supplied jars and bags. The samples were stored on ice before being transported to the laboratory along with CoC documentation, which is included in **Appendix F**.

B. Field Duplicates Samples

The purpose of field duplicate samples was to estimate the variability of a given characteristic or contaminant associated with a population. Field duplicate samples were not collected during fieldwork in any of the events,

C. Blank and Spike Samples

Field blanks and trip blanks were collected and submitted for laboratory analysis as outlined in Table I5.

Field blanks were used to assess if the ambient condition of the site may influence the quality of the samples and were prepared by the primary laboratory. Field blanks were uncapped and left on-site for the duration of the sampling.

Trip blanks assess the potential for cross contamination between transit from the site to the laboratory. Trip spikes assess for the potential loss of volatile constituents from samples whilst in transit from the site to the laboratory. Trip spikes and trip blanks are prepared by the primary laboratory, carried to the field unopened and subjected to the same preservation methods as the primary field samples. Samples were analysed for volatile compounds.

Table I4: Blank and Spike Analytical Results

Type / Medium	Sample	Date	Analysis	Results
Trip Blank (Soil)	TB_20240116	16/01/2024	BTEX, TRH	Results <PQLs

D. Laboratory QA/QC

The laboratory conducted their own internal quality program for assessment of the repeatability of the analytical procedures and instrument accuracy under their NATA accreditation. This included analysis of laboratory blank samples, duplicate samples, spike samples, control samples and surrogate spikes. The laboratory QA/QC procedures and results are described within the laboratory reports presented in **Appendix F**.

The laboratory internal QA/QC sample results were reviewed and were consistent with the laboratory's NATA guidelines. Furthermore, the adoption of the general advisory ranges for specific recoveries has been used to screen laboratory data. Where recoveries were outside these ranges the data was assessed in relation to specific laboratory comments, published industry 'norms' for specific parameters and/or the likely impact on the interpretation of the meaning of the results.

Based on the reported laboratory QA/QC samples and methods used, the results were considered to be acceptable.

E. Summary

Despite the limitations raised above, the data was appropriate for the objectives of the assessment based on the conclusions of the risk assessment. Given the level of field and laboratory QA measures adhered to, the level of QC analysis conducted was considered to be appropriate based on the sampling frequency and nature of the assessment and as such the DQIs considered to have been met

Lab Report Number			SE259300
Field ID			TB_20240116
Date			16 Jan 2024
Matrix Type			Soil
	Unit	PQL	
BTEX			
Naphthalene (VOC)	mg/kg	0.1	<0.1
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
Xylene (m & p)	mg/kg	0.2	<0.2
Xylene (o)	mg/kg	0.1	<0.1
Xylene Total	mg/kg	0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6
TRH			
C6-C10 Fraction (F1)	mg/kg	25	<25
C6-C10 (F1 minus BTEX)	mg/kg	25	<25
>C10-C16 Fraction (F2)	mg/kg	25	<25
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	25	<25
>C16-C34 Fraction (F3)	mg/kg	90	<90
>C34-C40 Fraction (F4)	mg/kg	120	<120
>C10-C40 Fraction (Sum)	mg/kg	210	<210
Inorganics			
% Moisture	%	1	<1



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