

Ministerial Statement Compliance Assessment Report

**Tonkin Highway Extension from Mills
Road West, Gosnells to South Western
Highway, Mundijong**

Ministerial Statement 595

*Keeping
WA Moving*

Reporting Period: 31 March 2025 to 30 March 2026

Contents

1	INTRODUCTION	4
1.1	Location of the Approved Action	4
1.2	Purpose of this Report.....	4
1.3	Project Description	4
1.3.1	Tonkin Highway Extension.....	4
1.4	Environmental Approval History and Status	5
2	PROJECT IMPLEMENTATION STATUS SUMMARY	6
3	STATEMENT OF COMPLIANCE	7
4	DETAILS OF DECLARED COMPLIANCE STATUS	7
4.1	Corrective Measures.....	7
4.2	Retention of Compliance Statements.....	7
4.3	Public Availability of Compliance Reports.....	8
5	REFERENCES	9
	APPENDICES	10

Document Control

Report Compilation & Review	Position	Document Revision	Date
Author:	Environment Officer	Draft A	04/03/2026
Reviewer:	Environment Officer	Draft B	23/05/2026
Reviewer:	CRSP	Draft C	17/06/2026
Author:	Environment Officer	Draft D	25/06/2026
Approved:	Director Environment and Heritage	Rev 0	29/06/2026

1 INTRODUCTION

The Commissioner of Main Roads Western Australia (Main Roads) was granted conditional approval to construct the Tonkin Highway Extension, from Mills Road West, Gosnells, to South Western Highway, Mundijong (the Project) under Part IV Division 2 (section 45) of the *Environmental Protection Act 1986* (EP Act) by the Minister for Environment.

The Project is subject to the implementation conditions of Ministerial Statement 595 (MS 595), which was revised, approved and re-issued on 31 March 2025. MS 595 was originally issued on 12 June 2002.

1.1 Location of the Approved Action

The location of the approved action is shown Appendix A Figure 1.

1.2 Purpose of this Report

Stage 1 of the Project between Mills Road West, Gosnells, and Thomas Road, Oakford, has been built and is completed.

This Compliance Assessment Report (CAR) relates to Stage 2 of the Project, which involves the construction of Tonkin Highway between Thomas Road to South Western Highway.

This CAR has been prepared to demonstrate compliance with the conditions set out in MS 595 for Stage 2 of the Project for the compliance reporting period 31 March 2025 to 30 March 2026.

Condition D2-1 of MS 595 requires annual compliance reports to be submitted to the CEO and published on the main roads website following the 12-month reporting period.

D2 Compliance Reporting

*D2-1 The proponent must provide an annual Compliance Assessment Report to the **CEO** for the purpose of determining whether the implementation conditions are being complied with.*

*D2-2 Unless a different date or frequency is approved by the **CEO**, the first annual Compliance Assessment Report must be submitted within fifteen (15) months of the date of this Statement, and subsequent reports must be submitted annually from that date.*

This is the first CAR prepared for the Project since MS 595 was revised and re-issued in March 2025.

1.3 Project Description

Perth's south-east corridor is currently impacted by high volumes of heavy vehicles and through-traffic travelling to and from the South West and Wheatbelt regions. The construction of the Tonkin Highway Extension will provide safer, more efficient travel for road users and heavy vehicles, reduce congestion, and improve connectivity between current and future residential, commercial, and employment areas.

1.3.1 Tonkin Highway Extension

Stage 2 of the Project involves a new 14 km four-lane dual carriageway between Thomas Road and South Western Highway. It includes:

- Five underpasses and a footbridge at Orton Road for safe crossing by pedestrians and cyclists.
- Grade-separated interchange at Thomas Road and Bishop Road to improve traffic flow and safety.

- Roundabouts at Orton Road, Mundijong Road and South Western Highway.
- Underpasses at Abernethy Road and Shanley Road to support vehicle, pedestrian, cyclist and horse movements.
- Underpass at Gossage Road to support pedestrian, cyclist and horse movements.
- Rail bridges at Bishop Road and Wright Road.
- Principal Shared Paths, noise and visual screening walls, lighting and improved local road access, including emergency egress.
- The project also caters for recreational needs by supporting the region's equestrian network with several dedicated horse underpasses and connections.

1.4 Environmental Approval History and Status

MS 595 was originally issued on 12 June 2002. The Proposal involved design, construction and use of approximately 33 km of highway from Mills Road West in Gosnells to South Western Highway in Mundijong, WA. The Proposal was designed to alleviate pressure on the existing transport network, reduce travel times for private and freight traffic, and improve safety and connectivity between current and future residential, business and employment precincts.

Construction of Tonkin Highway between Mills Road West in Gosnells to Thomas Road in Oakford (Stage 1) was completed in August 2005.

Subsequent to the issuing of MS 595 and completion of Stage 1, the design for Stage 2 (Thomas Road to South Western Highway) was refined to optimise future traffic and environmental outcomes. The updated design resulted in the Development Envelope (DE) extending (to a minor extent) beyond the original approved footprint.

A Section 45C was sought to amend the DE to incorporate the updated design and, given it was more than twenty years old, Main Roads also requested the condition of MS 595 be amended to aligned with current regulatory practice and EPA guidance. The updated MS 595 was issued on 31 March 2025.

2 PROJECT IMPLEMENTATION STATUS SUMMARY

Stage 1 of the Tonkin Highway Extension Project from Mills Road West to Thomas Road was completed in 2005 in accordance with the original MS595. Clearing for Stage 2 of the Tonkin Highway Extension from Thomas Road to South Western Highway commenced on 28 July 2025.

Clearing within the reporting period of key environmental aspects identified in MS 595 is shown in Table 1 and Appendix B Figure 2 (Total Native Vegetation Clearing) and Figure 3 (Total Environmental Values Clearing).

Table 1. Clearing metrics during the 2025 – 2026 reporting period.

Environmental Aspect	Area / quantity specified in Ministerial Statement 595	Area / quantity cleared in 2025 - 2026 reporting period	Total area / quantity cleared
Flora and Vegetation	Direct disturbance of native vegetation: 32.6 ha is within Stage 2	11.85 ha	11.85 ha
	7.5 ha of regionally significant bushland , of which: (i) 1.91 ha is within Stage Two ;	1.38 ha	1.38 ha
	0.1 ha of vegetation representative of <i>Corymbia calophylla</i> – <i>Kingia australis</i> woodlands on heavy soils (floristic community type 3a as originally described in Gibson et al. 1994) within Stage Two ;	0.007 ha	0.007 ha
	3.37 ha of vegetation representative of <i>Corymbia calophylla</i> - <i>Xanthorrhoea preissii</i> woodlands and shrublands, Swan Coastal Plain (floristic community type 3c as originally described in Gibson et al. 1994) within Stage Two ; and	1.26 ha	1.26 ha
	87 individuals of <i>Morelotia australiensis</i> within Stage Two	7	7
Terrestrial Fauna	42.92 ha of foraging habitat for black cockatoos of which: (i) 34.95 ha is within Stage Two ;	17.84 ha	17.84 ha
	317 potential nesting trees within Stage Two ; and	186	186
	2 potential nesting trees with suitable hollows within Stage Two	0	0
Inland Waters	10.19 ha of Conservation Category Wetlands , of which: (i) 2.83 ha is within Stage Two ; and	1.59 ha	1.59 ha
	29.00 ha of Resource Enhancement Wetlands , of which: (i) 0.23 ha is within Stage Two ;	0.21 ha	0.21 ha

3 STATEMENT OF COMPLIANCE

Refer to Appendix C.

4 DETAILS OF DECLARED COMPLIANCE STATUS

MS 595 requires compliance with implementation conditions and commitments including pre-construction and post-construction requirements. Table 2 in Appendix D of this report documents the conditions and proponent commitments of MS 595, project key characteristics compliance for the reporting period. The audit table has been prepared based on information available to Main Roads at this time.

Compliance with the conditions of approval will be assessed as one of the following:

- Compliant - the condition has been complied with during the reporting period.
- Non-Compliant - the condition has not been complied with during the reporting period.
- Not Applicable - the condition falls outside of the scope of the current reporting period and is not relevant.
- Conditions deemed completed are shaded grey.

There was one non-compliance with MS 595 reported to the Compliance Branch of the Department of Water and Environmental Regulation (DWER) on 30 March 2026 in accordance with Condition D1-1. Condition B3-2 requires there to be no stockpiling within 50 metres of a Conservation Category Wetland or Cardup Brook during construction. Following a site inspection by the Tonkin Extension Alliance Environment Team, stockpiles of mulch, vegetation, and excavated material were found within 50m in four locations. The non-compliance was reported to DWER within 7 days of becoming aware of it, and the stockpiles have been removed. Details of this environmental event are provided in Appendix C: Statement of Compliance.

The project was compliant with all other conditions of the action.

4.1 Corrective Measures

Corrective measures undertaken to ensure that future stockpiling does not occur within 50m of Conservation Category Wetland or Cardup Brook:

- D1-1 Discussions were held between the Tonkin Extension Alliance Environment Team and the Site Supervisors on the importance of awareness and implementation of all requirements of MS 595. The reason for this particular condition requirement was explained, as it relates to protecting inland waters;
- D1-1 (7) Site supervisors were informed of the requirement to relocate the stockpiles.

No contingency measures have been implemented for this event as no environmental harm has been observed in the area where the non-conformance occurred.

4.2 Retention of Compliance Statements

All CARs will be retained by Main Roads in accordance with relevant record keeping legislation, including:

- *State Records Act 2000*
- *Evidence Act 1906*
- *Electronic Transactions Act 2011*

- *Freedom of Information Act 1992.*

Main Roads will retain CARs (including all associated compliance assessments) and evidence used to verify compliance for the life of the proposal and then for a minimum of seven years after the end of the life of the proposal. Main Roads will continue to implement the proposal until the CEO has determined all conditions of MS 595 have been satisfactorily met.

CARs will be retained on Main Roads Electronic Document and Records Management System that Main Roads is required to maintain and operate in accordance with its obligations under the *State Records Act 2000*.

4.3 Public Availability of Compliance Reports

In line with MS 595 Condition D2-4(6) and the OEPA's 2012 *Post Assessment Guideline 4: Making Information Publicly Available*, CARs will be made publicly available by publishing them on the Main Roads website. This will occur within sixty (60) of the report being submitted to the CEO.

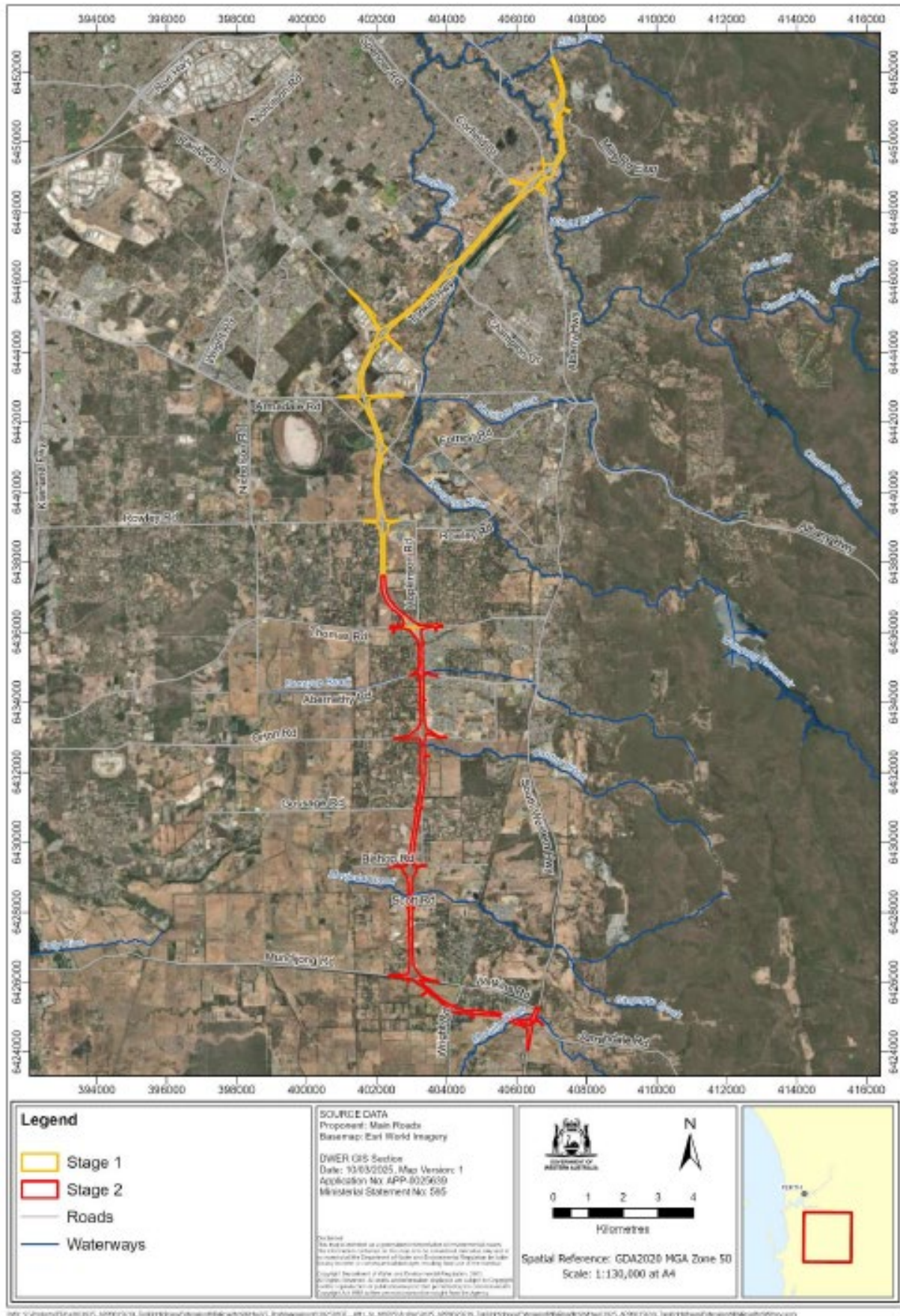
5 REFERENCES

Main Roads (2025), Tonkin Highway Extension - Compliance Assessment Plan (CAP).

Minister for Environment. 2025. Ministerial Statement 595 – Tonkin Highway Extension from Mills Road West, Gosnells to South Western Highway, Mundijong; March 2025.

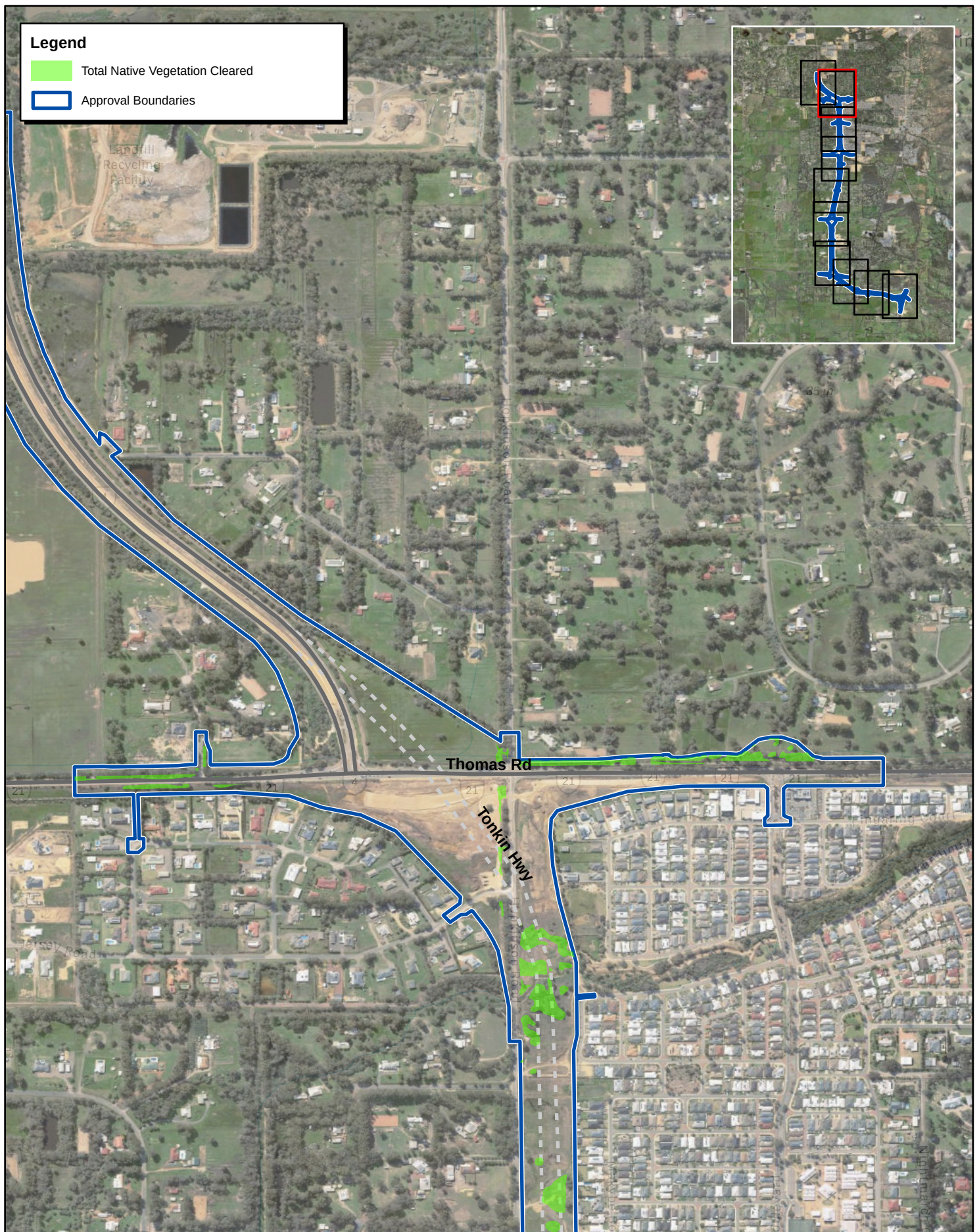
APPENDICES

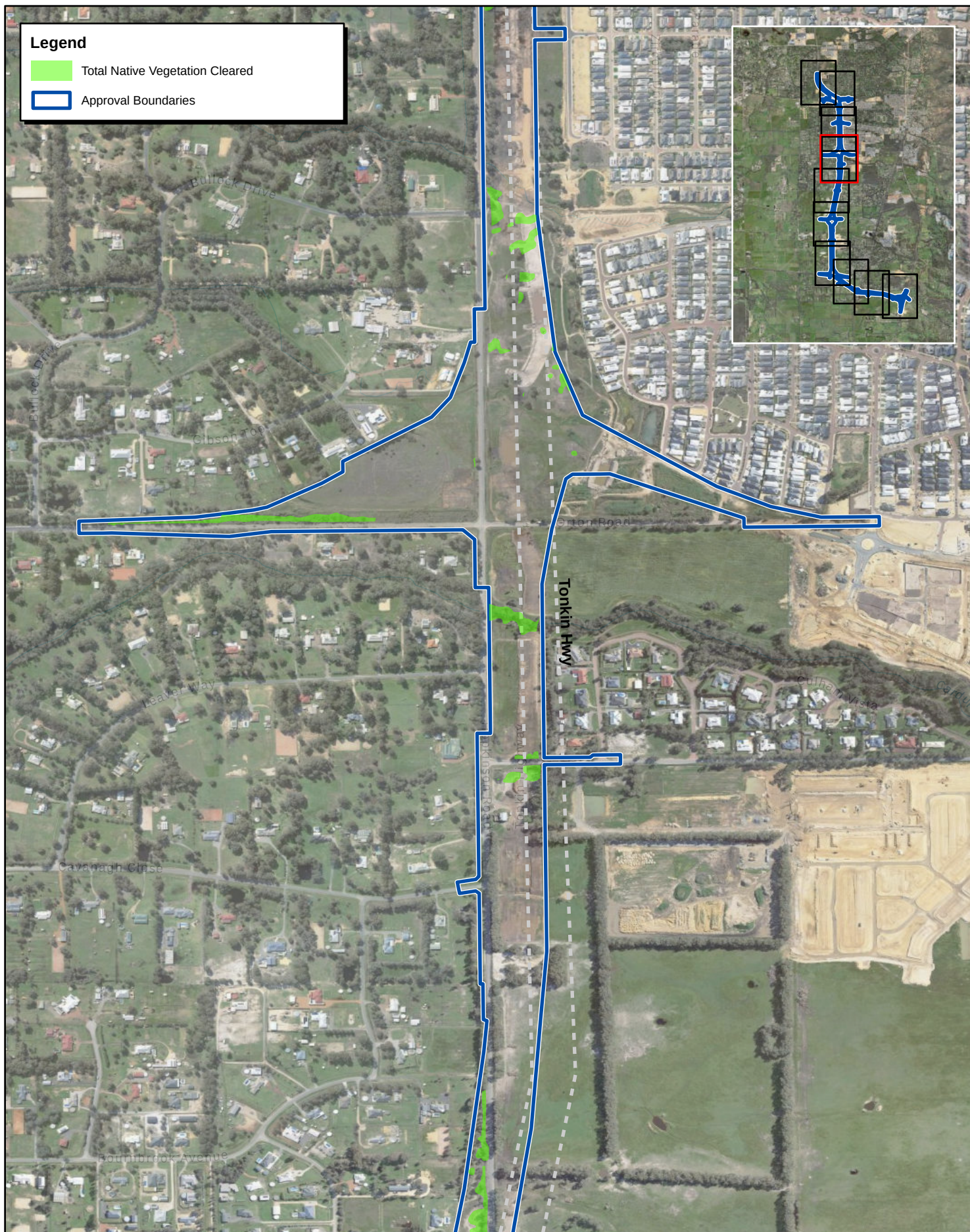
Appendix	Title
Appendix A	Figure 1 - Location of the Action
Appendix B	Clearing Figures Figure 2 - Total Native Vegetation Clearing Figure 3 - Total Environmental Values Clearing
Appendix C	Statement of Compliance
Appendix D	Table 2- Compliance with Ministerial Statement 595 Conditions
Appendix E	Compliance Attachments

Appendix A: Figure 1 – Location of the Action

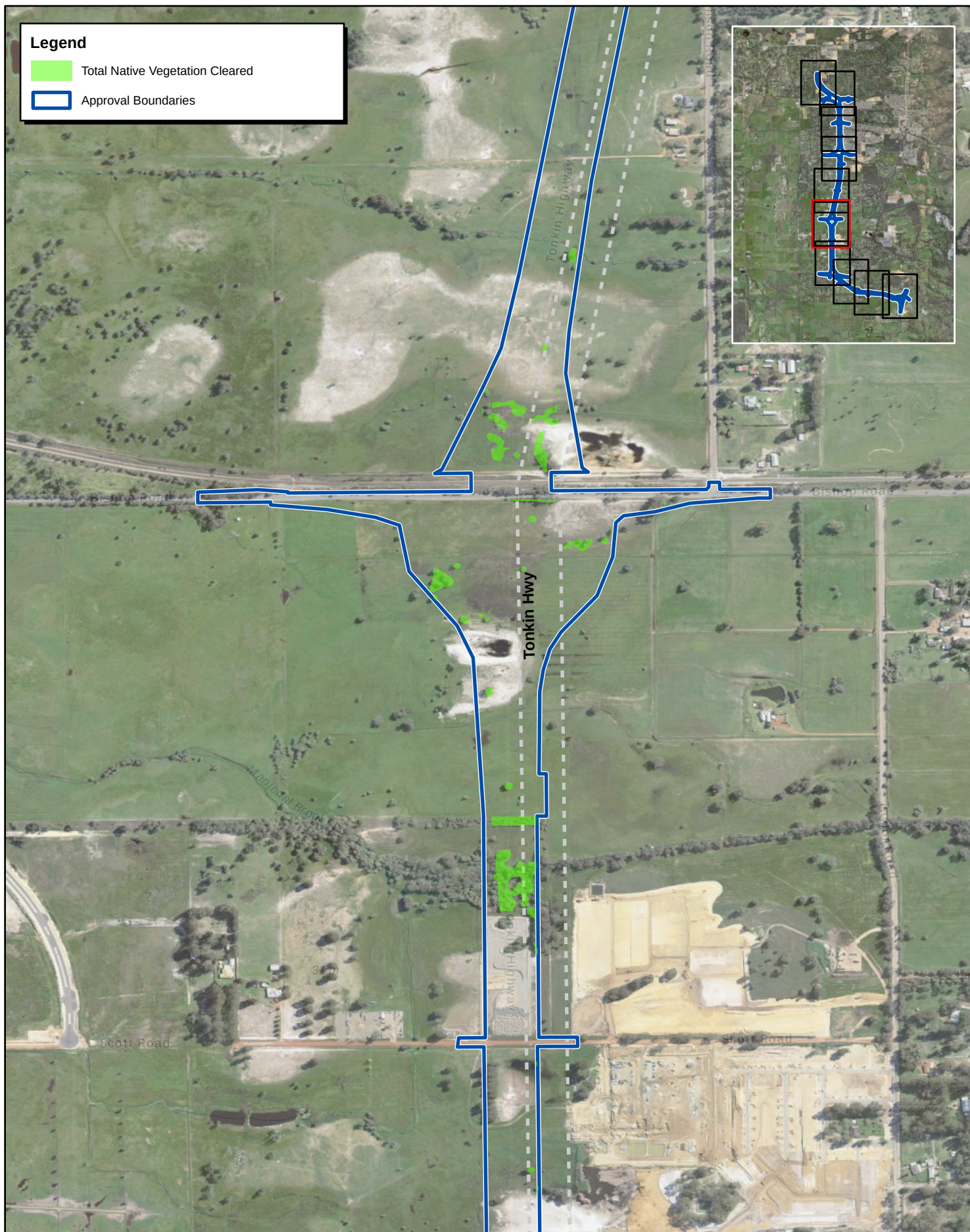
Appendix B: Clearing figures. Figure 2 – Native Vegetation Clearing







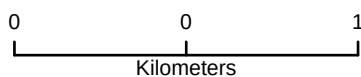


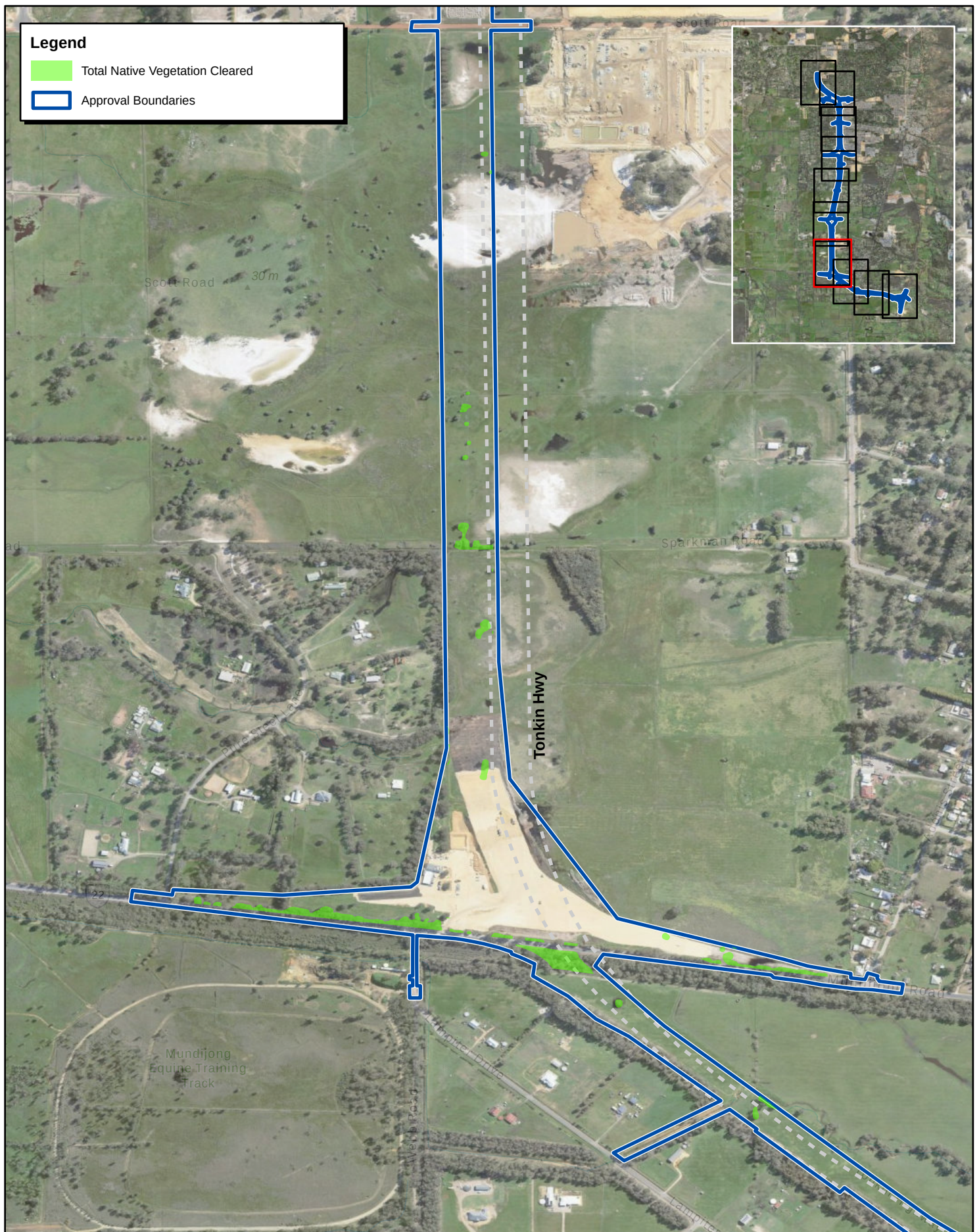


Coordinate System: GDA2020
 Scale: 1:11,000@ A4
 Created Date: 25/06/2026
 Author: C11025

Tonkin Highway Extension and Thomas Road Upgrade Project

Annual Compliance Report 2025-26 Native Vegetation Clearing

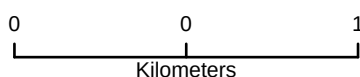


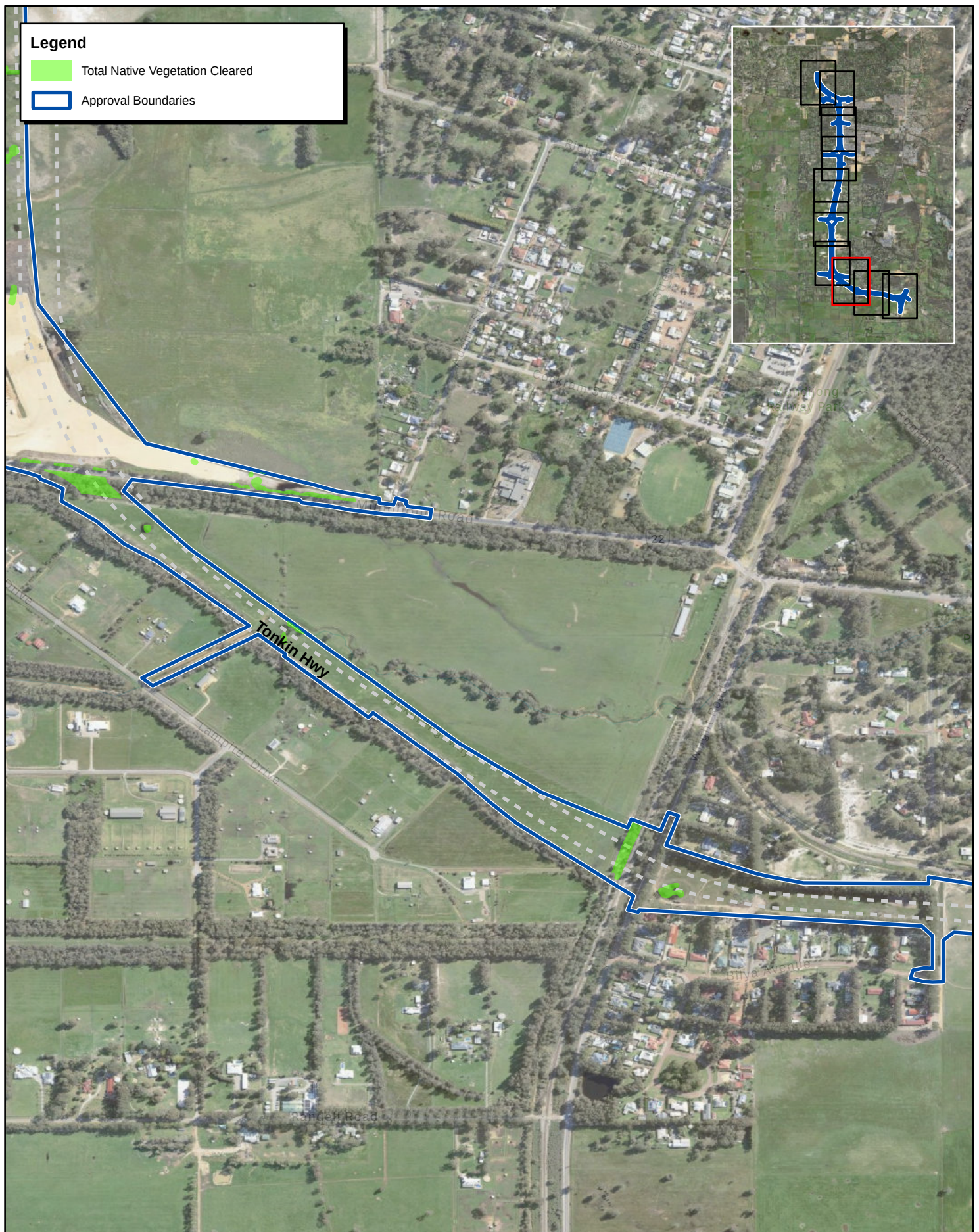


Coordinate System: GDA2020
 Scale: 1:11,000@ A4
 Created Date: 25/06/2026
 Author: C11025

Tonkin Highway Extension and Thomas Road Upgrade Project

Annual Compliance Report 2025-26 Native Vegetation Clearing



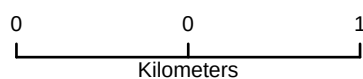




Coordinate System: GDA2020
 Scale: 1:11,000@ A4
 Created Date: 25/06/2026
 Author: C11025

Tonkin Highway Extension and Thomas Road Upgrade Project

Annual Compliance Report 2025-26 Native Vegetation Clearing



Page 9 of 10

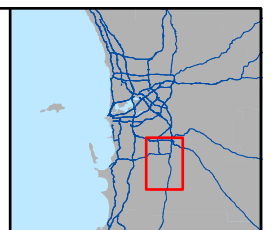
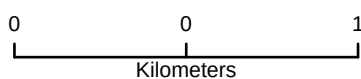


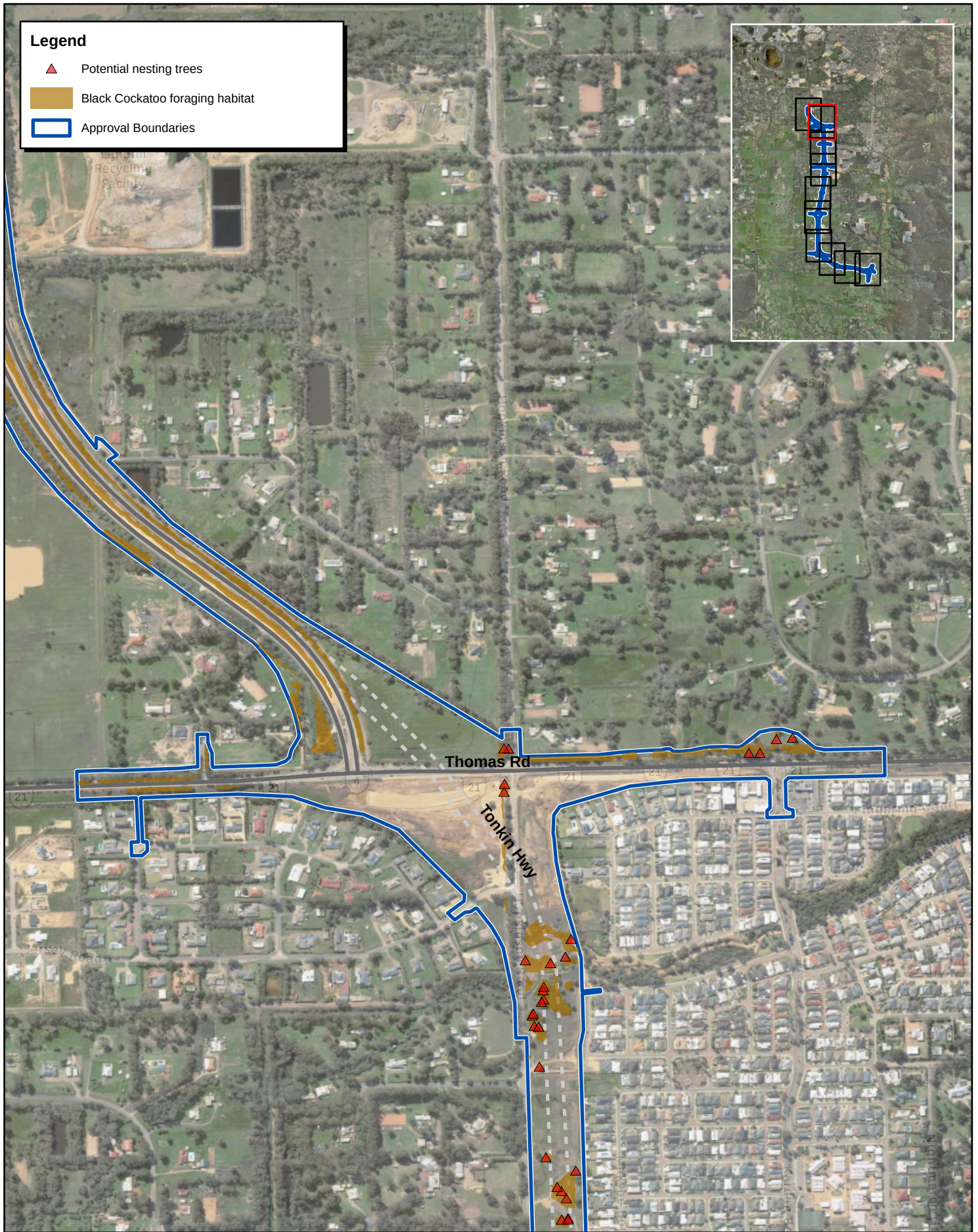
Appendix B: Clearing figures. Figure 3 – Total Environmental Values Clearing



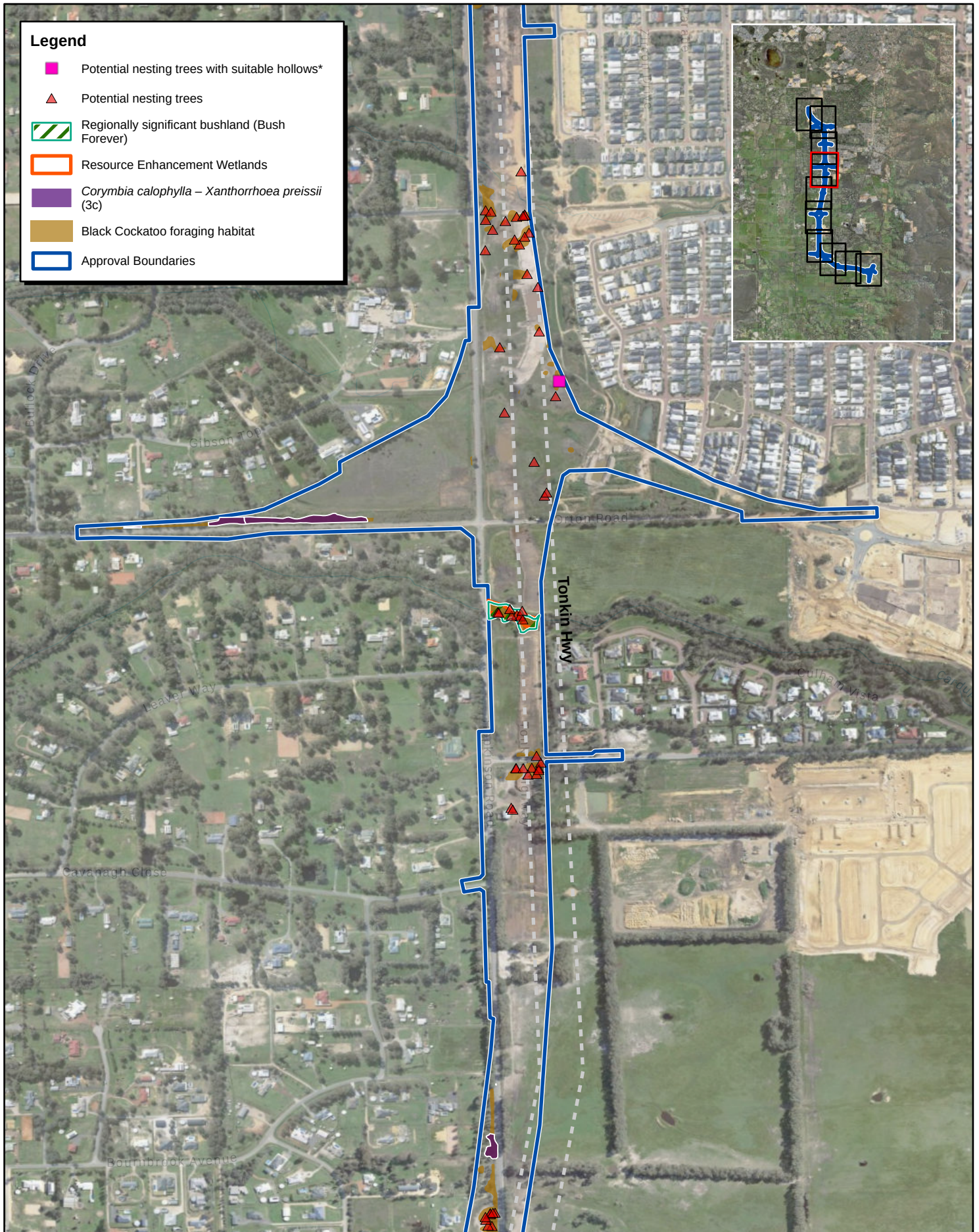
Coordinate System: GDA2020
 Scale: 1:11,000@ A4
 Created Date: 25/06/2026
 Author: C11025

Tonkin Highway Extension and Thomas Road Upgrade Project
Annual Compliance Report 2025-26 Environmental Values Clearing

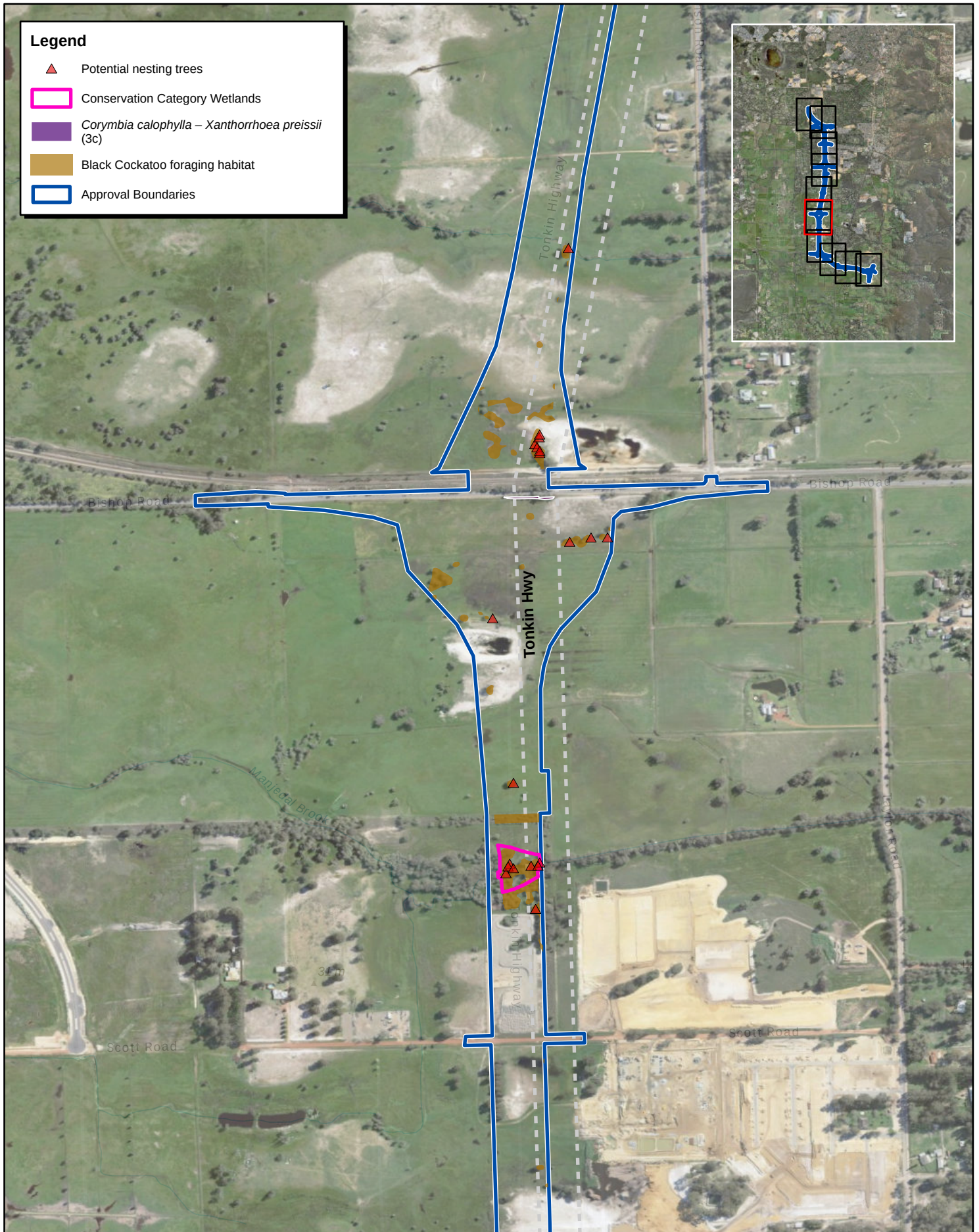












Coordinate System: GDA2020
 Scale: 1:11,000@ A4
 Created Date: 25/06/2026
 Author: C11025

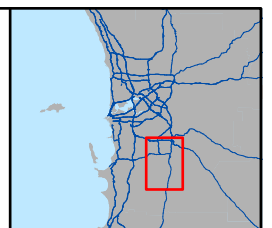
Tonkin Highway Extension and Thomas Road Upgrade Project

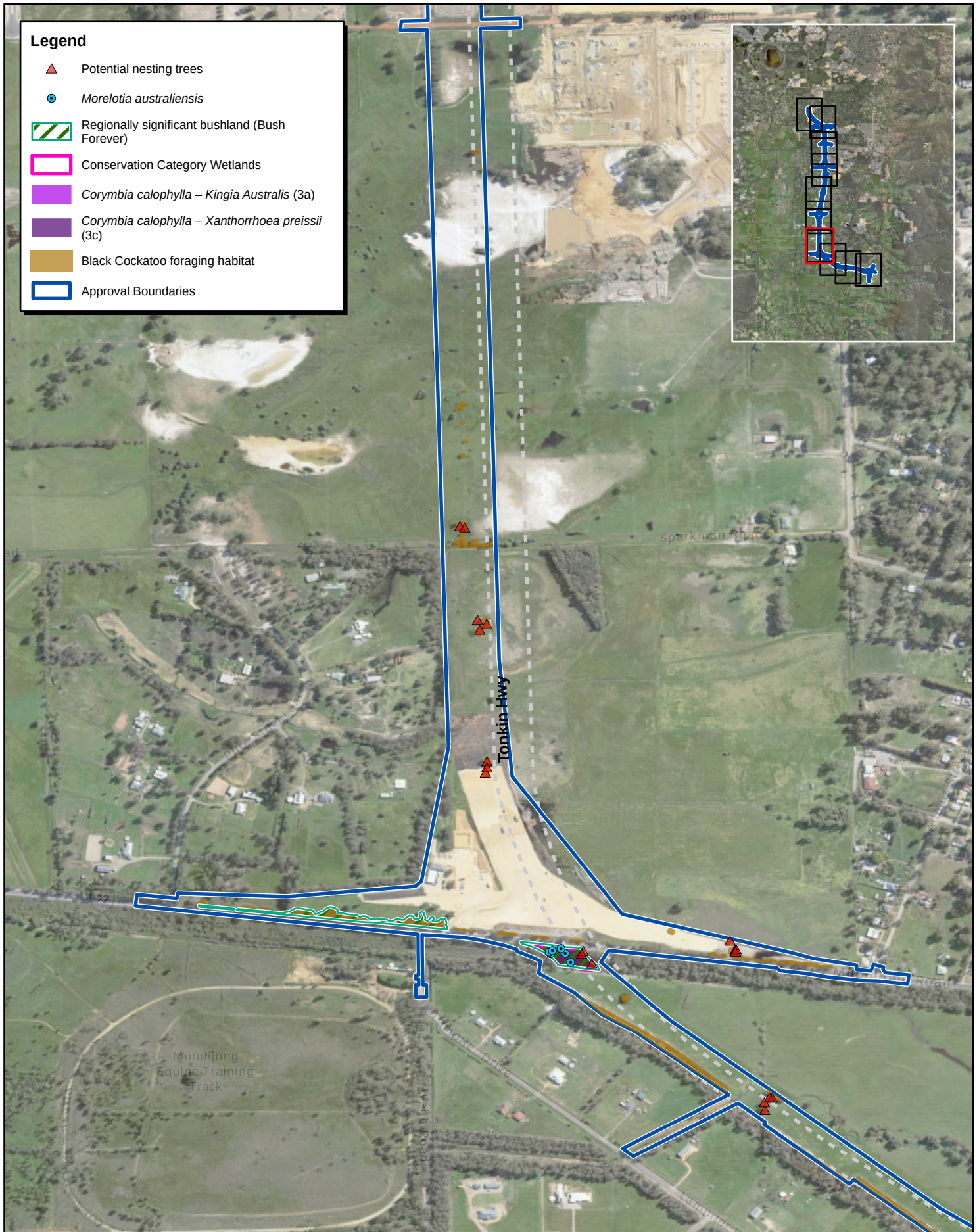
Annual Compliance Report 2025-26 Environmental Values Clearing

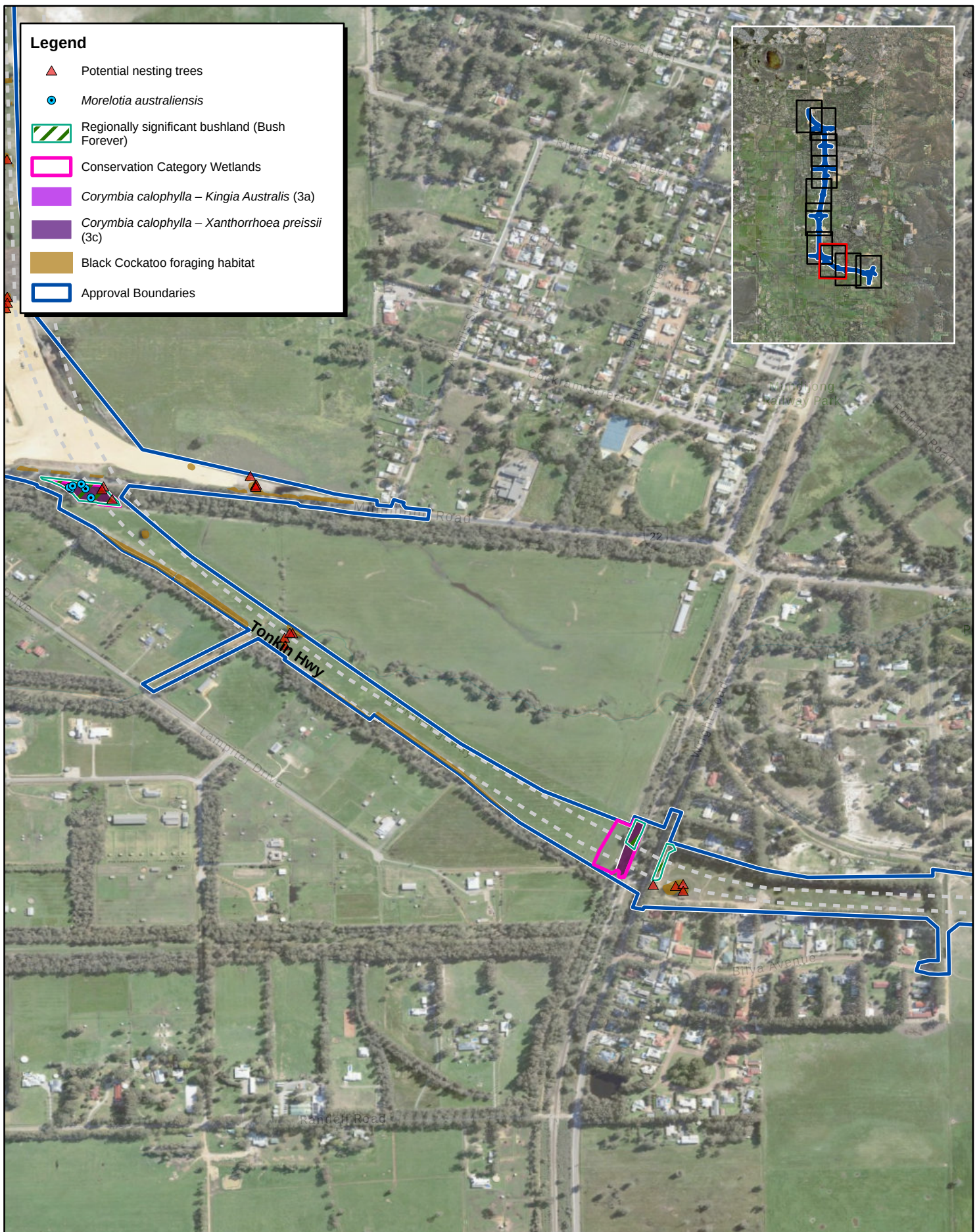
0 0 1
 Kilometers



Page 6 of 10

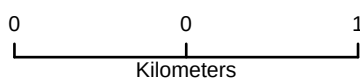


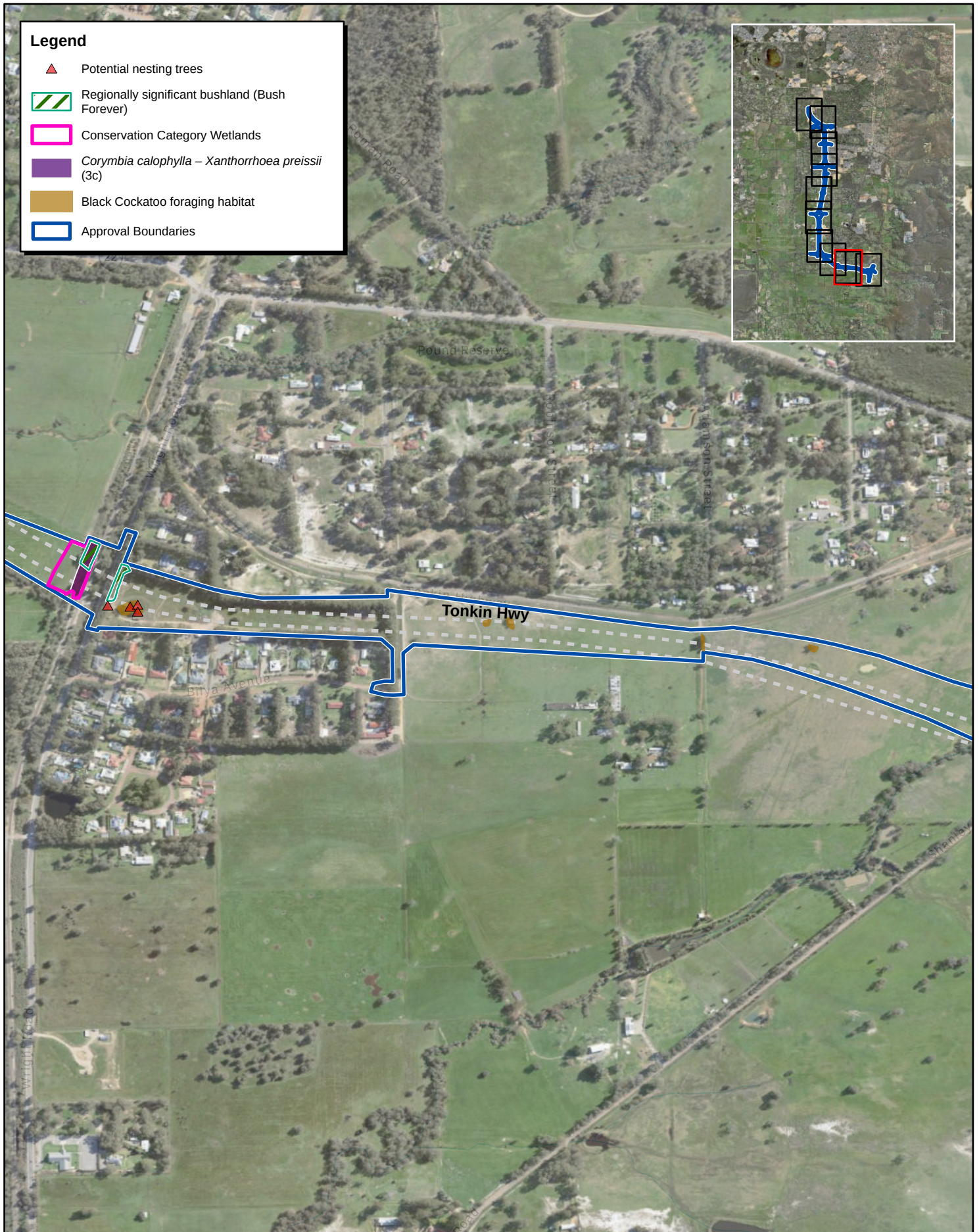


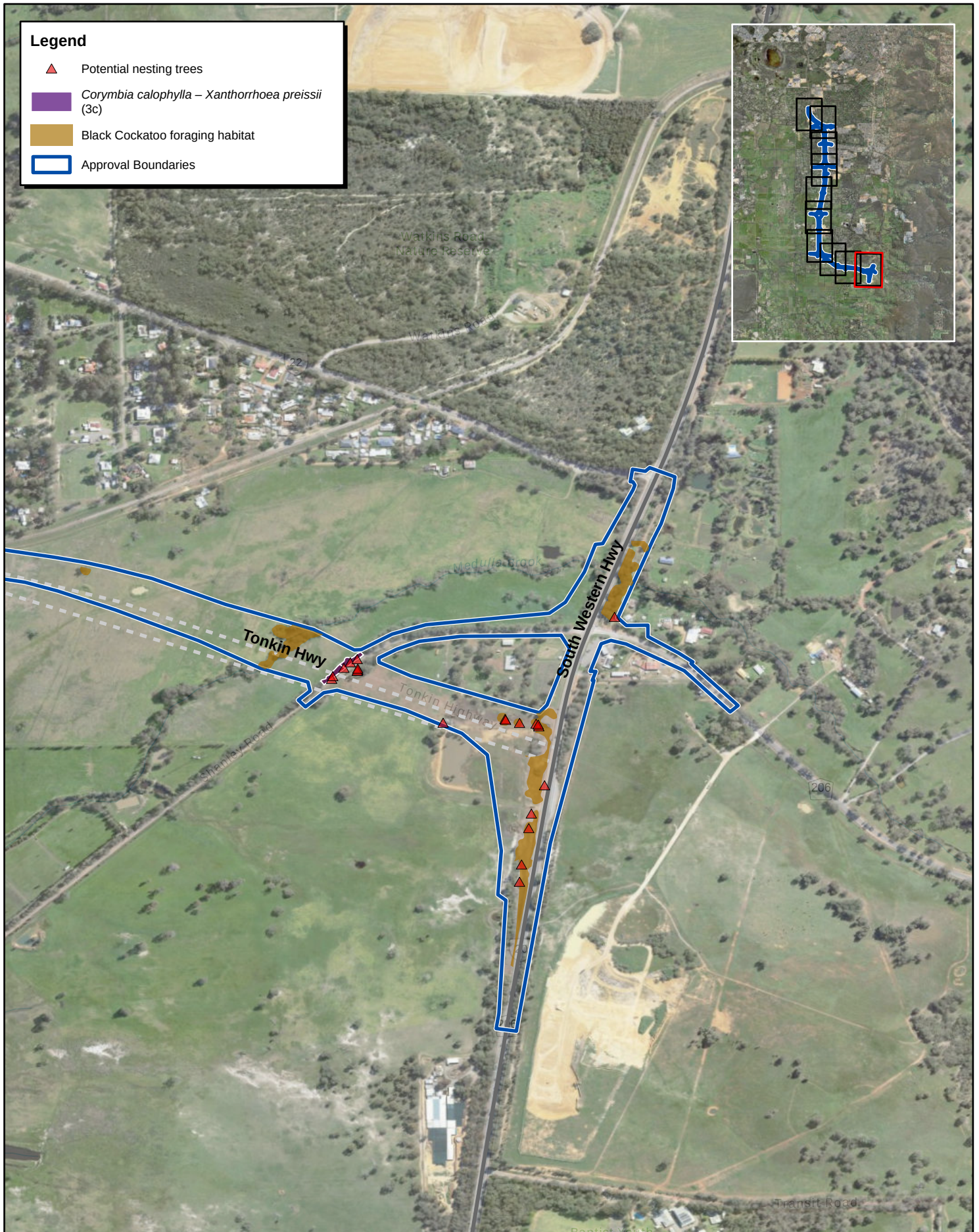


Coordinate System: GDA2020
 Scale: 1:11,000@ A4
 Created Date: 25/06/2026
 Author: C11025

Tonkin Highway Extension and Thomas Road Upgrade Project
Annual Compliance Report 2025-26 Environmental Values Clearing







Appendix C: Statement of Compliance (Post Assessment Form 2)

Statement of Compliance**1 Proposal and Proponent Details**

Proposal Title	<i>Tonkin Highway Extension – Thomas Road Upgrade</i>
Statement Number	595
Proponent Name	<i>Main Roads Western Australia</i>
Proponent's Australian Company Number (where relevant)	50 860 676 021

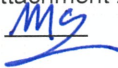
2 Statement of Compliance Details

Reporting Period	31/03/25 to 30/03/26
------------------	----------------------

Implementation phase(s) during reporting period (please tick ✓ relevant phase(s))					
Pre-construction	✓	Construction	✓	Operation	
				Decommissioning	

Audit Table for Statement addressed in this Statement of Compliance is provided at Attachment:	B
An audit table for the Statement addressed in this Statement of Compliance must be provided with this Statement of Compliance. The audit table must be prepared and maintained in accordance with the Office of the Environmental Protection Authority's (OEPA) <i>Post Assessment Guideline for Preparing an Audit Table</i> , as amended from time to time. The 'Status Column' of the audit table must accurately describe the compliance status of each implementation condition and/or procedure for the reporting period of this Statement of Compliance. The terms that may be used by the proponent in the 'Status Column' of the audit table are limited to the Compliance Status Terms listed and defined in The CAP.	

Were all implementation conditions and/or procedures of the Statement complied with within the reporting period? (please tick ✓ the appropriate box)			
No (please proceed to Section 3)	✓	Yes (please proceed to Section 4)	

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance. INITIALS: 

3 Details of Non-compliance(s) and/or Potential Non-compliance(s)

The information required Section 3 must be provided for each non-compliance or potential non-compliance identified during the reporting period covered by this Statement of Compliance.

Non-compliance/potential non-compliance

Which implementation condition or procedure was non-compliant or potentially non-compliant?
Condition B3-2 During construction within Stage Two , the proponent must: (1) Ensure that no refuelling, chemical storage, or stockpiling occurs within fifty (50) metres of: a. Conservation Category Wetlands ; and b. Cardup Brook.
Was the implementation condition or procedure non-compliant or potentially non-compliant?
Non-compliant.
On what date(s) did the non-compliance or potential non-compliance occur (if applicable)?
19 March 2026.

Was this non-compliance or potential non-compliance reported to the General Manager, OEPA?	
☒ Yes ☐ Reported to OEPA verbally Date _____ ☒ Reported to OEPA in writing Date: 30/03/2026	☐ No

What are the details of the non-compliance or potential non-compliance and where relevant, the extent of and impacts associated with the non-compliance or potential non-compliance?
Following a site inspection by the environment team on the 23rd March, it was identified that stockpiles were within 50 metres of four of the five Conservation Category Wetlands (CCW) that pass within the project development envelope, see Figure 1. It is a requirement of Condition <u>B3-2</u> of Ministerial Statement 595 that there is no stockpiling to occur within 50m of a conservation category wetland or Cardup Brook. The stockpiles were comprised of topsoil, mulch, cleared vegetation and other material excavated on site (non-acid sulfate soil material). The stockpiles were removed by 1 May 2026 and no environmental impact has been observed in the area where the non-conformance occurred. All CCW were currently dry so there was no opportunity for sedimentation of the waterways. The stockpiles were all comprised of inert materials. The relocation of the stockpiles involved careful removal of all material from within the 50m buffer to ensure there are no remnants left as the winter season approaches and the CCW receive water.
What is the precise location where the non-compliance or potential non-compliance occurred (if applicable)? (please provide this information as a map or GIS co-ordinates)
See map attached to this Statement of Compliance.
What was the cause(s) of the non-compliance or potential non-compliance?
The likely cause of this non-compliance is a lack of awareness on site of this particular condition of MS 595.

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance. INITIALS: my

What remedial and/or corrective action(s), if any, were taken or are proposed to be taken in response to the non-compliance or potential non-compliance?

Corrective actions:

D1-1 (6) Discussions have occurred between the Tonkin Extension Alliance Environment Team and the Site Supervisors on the importance of awareness and implementation of all requirements of MS 595. The reason for this particular requirement was explained, as it relates to protecting inland waters.

D1-1 (7) Site supervisors were informed of the requirement to relocate the stockpiles.

The 50m buffer for CCWs has been included within Civillo, the GIS mapping tool that is used by all personnel on site.

What measures, if any, were in place to prevent the non-compliance or potential non-compliance before it occurred? What, if any, amendments have been made to those measures to prevent re-occurrence?

Compliance reviews are held regularly between the Contractor Environmental Team and the Main Roads Environmental Team to review controls that are in place to address requirements of the Ministerial Statement.

Conservation Category Wetlands were mapped in Civillo, the GIS mapping tool that is used by all personnel on site.

Conservation Category Wetlands that also have a Bed and Banks permit were flagged and discussed during clearing walks.

The Environment Teams for the Contractor and Main Roads understand the requirements of MS 595, but it is unlikely that the site teams have as much oversight of the approval. To prevent recurrence of this non-conformance the Tonkin Extension Alliance Environment team provided, and will continue to provide, education to site staff regarding MS595 conditions and site requirements surrounding stockpile management and planning. An additional layer has been added to Civillo with "go-lines" which are the approved areas for refueling to ensure the remainder of this condition is adhered to. Chemical storage does not occur within or adjacent to any CCW.

Please provide information/documentation collected and recorded in relation to this implementation condition or procedure:

- in the reporting period addressed in this Statement of Compliance; and
- as outlined in the approved Compliance Assessment Plan for the Statement addressed in this Statement of Compliance.

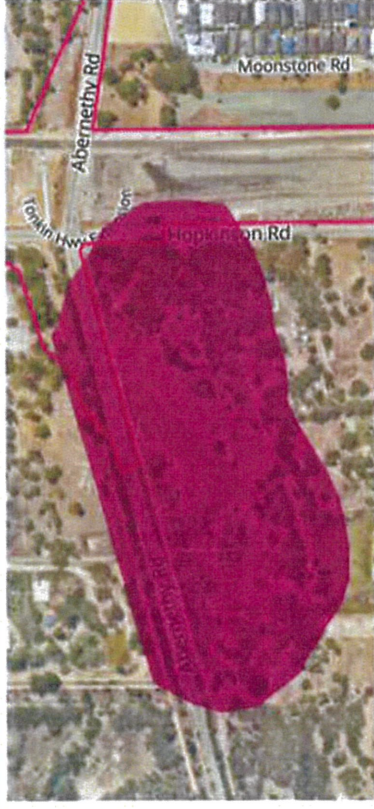
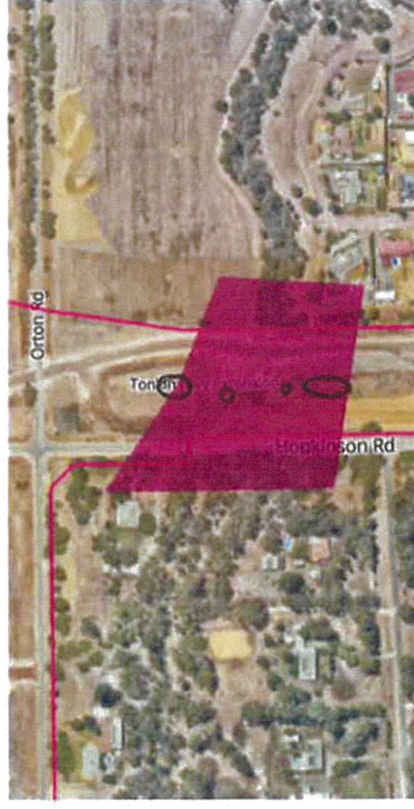
(the above information may be provided as an attachment to this Statement of Compliance)

Figure 1: Location Map: Stockpiles Located within Category Conservation Wetlands

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance. INITIALS: MS

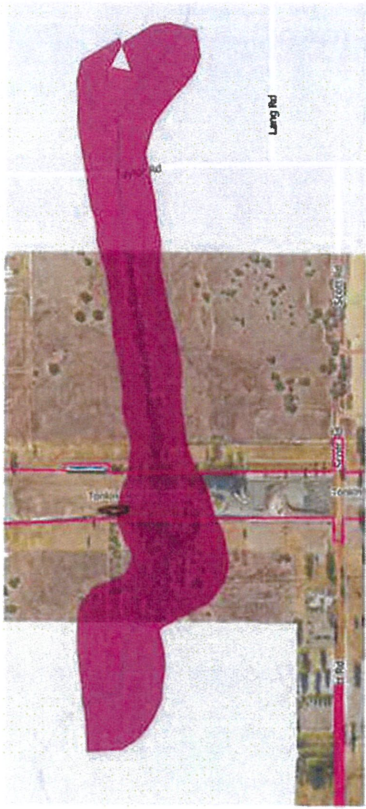
CCW INSPECTION

Date: 23 March 2026

Location no.	Mapping	Comments	Actions
1.	Central Zone		
1.1.		No stockpile material present	No action required
1.2.		Soil, mulch and greenwaste stockpiles, located north and south of brook within CCW zone.	Request all to be shifted to different location

CCW INSPECTION

Date: 23 March 2026

Location no.	Mapping	Comments	Actions
1.3.		Mulch stockpiling within small section of northern zone	Request stockpile to be shifted
2.	South Zone		
2.1.		Small stockpiles located south of Mundijong Road within CCW.	Stockpiles to be shifted outside of CCW zone.



CCW INSPECTION



Date: 23 March 2026

Location no.	Mapping	Comments	Actions
2.2.		Small stockpiles located on western side of rail within CCW zone.	Stockpiles to be located outside CCW zone.

MS

Proponent Declaration

I, Mathie Schellenberg, Director Environment and Heritage (full name and position title) declare that I am authorised on behalf of the Commissioner of Main Roads Western Australia (being the person responsible for the proposal) to submit this form and that the information contained in this form is true and not misleading.

Signature: Mathie Schellenberg Date: 29.06.2026

Please note that:

- it is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give or cause to be given information that to his knowledge is false or misleading in a material particular; and
- the Chief Executive Officer of the DWER has powers under section 47(2) of the *Environmental Protection Act 1986* to require reports and information about implementation of the proposal to which the statement relates and compliance with the implementation conditions.

4 Submission of Statement of Compliance

One hard copy and one electronic copy (preferably PDF on CD or thumb drive) of the Statement of Compliance are required to be submitted to the Chief Executive Officer, DWER, marked to the attention of Manager, Compliance (Ministerial Statements).

Please note, the DWER has adopted a procedure of providing written acknowledgment of receipt of all Statements of Compliance submitted by the proponent, however, the DWER does not approve Statements of Compliance.

5 Contact Information

Queries regarding Statements of Compliance, or other issues of compliance relevant to a Statement may be directed to Compliance (Ministerial Statements), DWER:

Manager, Compliance (Ministerial Statements)

Department of Water and Environmental Regulation

Postal Address: Locked Bag 33
Cloisters Square
PERTH WA 6850

Phone: (08) 6364 7000

Email: compliance@dwer.wa.gov.au

6 Post Assessment Guidelines and Forms

Post assessment documents can be found at www.epa.wa.gov.au

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance. INITIALS: MS

ATTACHMENT 1**Table 1 Compliance Status Terms**

Compliance Status Terms	Abbrev	Definition	Notes
Compliant	C	Implementation of the proposal has been carried out in accordance with the requirements of the audit element.	This term applies to audit elements with: - ongoing requirements that have been met during the reporting period; and - requirements with a finite period of application that have been met during the reporting period, but whose status has not yet been classified as 'completed'.
Completed	CLD	A requirement with a finite period of application has been satisfactorily completed.	This term may only be used where: - audit elements have a finite period of application (e.g. construction activities, development of a document); - the action has been satisfactorily completed; and - the Office of the Environmental Protection Authority (OEPA) has provided written acceptance of 'completed' status for the audit element.
Not required at this stage	NR	The requirements of the audit element were not triggered during the reporting period.	This should be consistent with the 'Phase' column of the audit table.
Potentially Non-compliant	PNC	Possible or likely failure to meet the requirements of the audit element.	This term may apply where during the reporting period the proponent has identified a potential non-compliance and has not yet finalized its investigations to determine whether non-compliance has occurred.
Non-compliant	NC	Implementation of the proposal has not been carried out in accordance with the requirements of the audit element.	This term applies where the requirements of the audit element are not "complete" have not been met during the reporting period.

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance. INITIALS: 

Compliance Status Terms	Abbrev	Definition	Notes
In Process	IP	Where an audit element requires a management or monitoring plan be submitted to the OEPA or another government agency for approval, that submission has been made and no further information or changes have been requested by the OEPA or the other government agency and assessment by the OEPA or other government agency for approval is still pending.	The term 'In Process' may not be used for any purpose other than that stated in the Definition Column. The term 'In Process' may not be used to describe the compliance status of an implementation condition and/or procedure that requires implementation throughout the life of the project (e.g. implementation of a management plan).

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance. INITIALS: 

Appendix D: Table 2 - Compliance with Ministerial Statement 595 Conditions

Appendix D: Table 2 - Compliance with Ministerial Statement 595 Conditions

Table 1 (the Audit Table) assesses compliance of all the commitments and conditions associated with MS 595 as per OEPA's 2012 Post Assessment Guideline No. 3 - Post Assessment Guideline for Preparing a Compliance Assessment Report.

Table 2. Summary of Compliance with Ministerial Statement 595 Conditions

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 MA1-1	Limitations and Extent of Proposal	The proponent must ensure that the proposal is implemented in such a manner that the following maximum extents are not exceeded: Proposal element: - Development envelope - Location; Figure 1 - Maximum extent: 480.6 ha, incorporating Stage One and Stage Two Proposal element: - Stage One; - Location; as shown in Figure 2 - From Mills Road West, Gosnells to Thomas Road, Oakford Proposal element: - Stage Two; - Location; as shown in Figure 2 - From Thomas Road, Oakford to South West Highway, Mundijong Proposal element: - Direct disturbance of native vegetation; - Location; Within the development envelope shown in Figure 1 (of approval) 65.2 ha, of which 32.6 ha is within Stage 2. The proponent must ensure that the proposal achieves the following environmental outcomes: (1) Disturb no more than the following environmental values: (a) 7.5 ha of regionally significant bushland, of which: (i) 1.91 ha is within Stage Two; (b) 0.1 ha of vegetation representative of Corymbia calophylla – Kingia australis woodlands on heavy soils (floristic community type 3a as originally described in Gibson et al. 1994) within Stage Two; (c) 3.37 ha of vegetation representative of Corymbia calophylla – Xanthorrhoea preissii woodlands and shrublands;	Implement the Proposal in accordance with limitations and extents	Annual CAR	Overall	Ongoing	Compliant	The Proposal implementation of Stage 2 commenced on 28 July 2025. Clearing and disturbance of 11.8 ha of native vegetation has occurred during the reporting period. Clearing for Stage 2 has not exceed the permitted extents. Refer to Figure 2 Appendix B and the clearing shapefiles provided with this CAR.
595 Part B B1-1	Flora and Vegetation	The proponent must ensure that the proposal achieves the following environmental outcomes: (1) Disturb no more than the following environmental values: (a) 1.38 ha of regionally significant bushland (Stage 2); (b) 0.007 ha of vegetation representative of Corymbia calophylla – Kingia australis woodlands on heavy soils (floristic community type 3a as originally described in Gibson et al. 1994) within Stage Two; (c) 1.26 ha of vegetation representative of Corymbia calophylla – Xanthorrhoea	Implement Proposal and clearing in accordance with limitations and extents of Condition A1-1.	Annual CAR Design, survey and GIS Files	Overall	Ongoing	Compliant	Clearing and disturbance of the following environmental values has occurred (for Stage 2): (a) 1.38 ha of regionally significant bushland (Stage 2); (b) 0.007 ha of vegetation representative of Corymbia calophylla – Kingia australis woodlands on heavy soils (floristic community type 3a as originally described in Gibson et al. 1994) within Stage Two; (c) 1.26 ha of vegetation representative of Corymbia calophylla – Xanthorrhoea

MLB

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 Part B B1-2		Swan Coastal Plain (floristic community type 3c as originally described in Gibson et al. 1994) within Stage Two ; and						preissii woodlands and shrublands,
		(d) 87 individuals of <i>Morelotia australiensis</i> within Stage Two .						(d) 7 individuals of <i>Morelotia australiensis</i> . Refer to Figure 3 in Appendix B and the clearing shapefiles provided with this CAR.
		The proponent must:						
		(1) undertake weed control and management during construction activities to prevent the introduction or spread of environmental weeds ;	Implement Dieback and Weed hygiene measures	Annual CAR Dieback and hygiene management plan	Construction	During construction	Compliant	Weed control has been undertaken throughout the reporting period and has been focused on the removal of Cottonbush (<i>Gomphocarpus fruticosus</i>) as it is a Declared Pest under the Biosecurity Management Act 2007.
		(2) implement hygiene protocols consistent with the <i>Management of Phytophthora cinnamomi for Biodiversity Conservation in Australia, Part 2 National Best Practice Guidelines</i> as amended or replaced from time to time;	Undertake Dieback survey prior to clearing	Annual CAR Pre-construction Dieback survey Dieback and hygiene management plan	Overall	Ongoing	Compliant	A dieback survey was completed in April 2025 prior to clearing commencing in July 2025. No protectable areas were detected within the Development Envelope. A Weed, Pest and Disease Management Subplan has been created for the project to assist in the management of Dieback, WONS, and pest animals. Refer to Appendix E: B1-2(1) Phytophthora Dieback Occurrence Report for Tonkin Highway Extension, May 2025.
	(3)	revegetate all areas of native vegetation disturbed , but not reasonably expected to be required for ongoing operations, within the Stage Two development envelope within twenty-four (24) months of completion of construction activities;	Develop landscaping and revegetation plan to incorporate the requirements of condition B1-2.	Annual CAR Landscaping and revegetation plan Landscaping and revegetation monitoring reports	Post construction	Post construction	Not applicable	Not applicable to this reporting period.
	(4)	ensure the revegetation required by condition B1-2(3) is consistent with pre-construction vegetation density ;	Implement landscaping and revegetation plan within 24 months of the completion of construction					Not applicable to this reporting period.
	(5)	undertake annual monitoring consistent with condition C3-1 and implement any contingency measures to ensure revegetation required by condition B1-2(3) will achieve the pre-construction vegetation density within				Until the CEO confirms by notice in writing that it has been demonstrated that the revegetation		Not applicable to this reporting period.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
		five (5) years post construction; and				required by condition B1-2(3) has successfully established		Not applicable to this reporting period.
		(6) continue to undertake the monitoring required by condition B1-2(5) until the CEO confirms by notice in writing that it has been demonstrated that the revegetation required by condition B1-2(3) has successfully established.						
595 Part B B2-1	Terrestrial Fauna	The proponent must ensure the implementation of the proposal achieves the following environmental outcome: (1) disturb no more than the following environmental values: (a) 42.92 ha of foraging habitat for black cockatoos of which: (i) 34.95 ha is within Stage Two ; (b) 317 potential nesting trees within Stage Two ; and (c) 2 potential nesting trees with suitable hollows within Stage Two .	Implement Proposal and clearing in accordance with limitations and extents of Condition B2-1.	Annual CAR Design, survey and GIS Files	Overall	Life of proposal	Compliant	The clearing for Stage 2 has not exceeded the approved clearing limits. Clearing and disturbance of the following environmental values has occurred (for Stage 2): 1. (a) 17.84 ha of foraging habitat for black cockatoos (Stage Two) ; (b) 186 potential nesting trees within Stage Two ; and (c) 0 potential nesting trees with suitable hollows within Stage Two . Refer to Figure 3 in Appendix B and the shapefiles provided with this CAR. The two potential nesting trees with three suitable hollows were not cleared during this reporting period. Where additional potential nesting trees with a hollow of some description were identified, a licenced fauna spotter completed an inspection (at most 7 days) prior to clearing to determine if the hollows were being used by black cockatoos or other wildlife. A fauna spotter was present during all clearing activities.
595 Part B B2-2		During construction activities, the proponent must undertake the following actions: (1) within seven (7) days prior to clearing, using a fauna handler with experience in surveying for black cockatoos , inspect all potential nesting trees with suitable hollows within Stage Two to determine if any hollows are being used for nesting by black cockatoos ; (2) if any hollows are in use by black cockatoos , the proponent shall not disturb the nesting tree , or vegetation within a ten (10) metre radius of the nesting tree , until after the black cockatoos have naturally completed nesting (young have fledged and dispersed) and a fauna handler has verified that the hollow(s) are no longer being used by black cockatoos ; and (3) ensure the presence of fauna handler(s) during clearing activities.	Undertake inspection of all potential Black Cockatoo nesting trees with suitable hollows prior to clearing Fauna handler to be present during all clearing activities	Annual CAR Pre-clearing Black Cockatoo survey report Clearing reporting (Fauna Handling Report)	Pre-Construction and construction	Prior to and during clearing activities	Compliant	
595 Part B B2-3		The proponent must: (1) not plant known foraging species for black cockatoos within ten (10) metres of the road;	Landscaping and revegetation plan excludes foraging species being planted within 10m of the road	Annual CAR Landscaping and revegetation plan As constructed drawings of fauna	Overall	Ongoing	(1), (2), (4) – Not applicable during this reporting period (3) – Compliant	Not applicable during the reporting period. Landscaping and revegetation activities did not commence during the reporting period.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 Part B B3-1	Inland Waters	(2) construct fauna crossings in the vicinity of:	Fauna crossings designed, installed and maintained in accordance with condition B2-3 Scheduled inspections of installed fauna structures	crossings (including photos) Completed site inspections				Not applicable during the reporting period. Fauna crossings were not constructed during the reporting period.
		(a) Cardup Brook;						
		(b) Manjedal Brook;						
		(c) Medulla Brook;						
		(d) Mundijong Road; and						
		(e) Wright Road.						
595 Part B B3-2	Inland Waters	(3) ensure fauna crossings required by condition B2-3(2) are:						Fauna crossings have been designed to minimise the potential risk of predation and be utilised by a variety of native fauna (as per Project design specifications).
		(a) designed to minimise the potential risk of predation; and						
		(b) able to be utilised by a variety of native fauna.						
		(4) maintain fauna crossings along the alignment for the life of the proposal.						
595 Part B B3-2	Inland Waters	The proponent must ensure the implementation of the proposal achieves the following environmental outcomes:	Implement the proposal such that the environmental outcomes of B3-1 are not exceeded Pre and post construction ground and surface water monitoring plan	Annual CAR Design, survey and GIS files Surface and groundwater monitoring results	Overall	Ongoing	Compliant	Clearing for Stage 2 has not exceeded the approval limits. Clearing and disturbance of the following environmental values has occurred (for Stage 2): (a) 1.59 ha of Conservation Category Wetlands (Stage Two) ; and (b) 0.21 ha of Resource Enhancement Wetlands (Stage Two) Refer to Figure 3 in Appendix B and the shapefiles provided with this CAR.
		(1) disturb no more than the following environmental values:						
		(a) 10.19 ha of Conservation Category Wetlands , of which:						
		(i) 2.83 ha is within Stage Two ; and						
		(b) 29.00 ha of Resource Enhancement Wetlands , of which:						
595 Part B B3-2	Inland Waters	(i) 0.23 ha is within Stage Two	No refuelling, chemical storage, and or stockpiling within 50m of environmental values	Annual CAR	Construction	Ongoing	Non-compliance	There has been no storage of hydrocarbons or hazardous materials, or refuelling, within 50 m of Conservation Category Wetlands and Cardup Brook. There are specific "go-lines" that are designated for refuelling; they are
		(2) ensure, that following construction, the water quality and hydrological regimes of wetlands and/or watercourses within or adjacent to Stage Two reflect preconstruction conditions.						
		During construction within Stage Two , the proponent must						
		(1) ensure that no refuelling, chemical storage, or stockpiling occurs within fifty (50) metres of:						
		(a) Conservation Category Wetlands ; and						

MLG

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
		(b) Cardup Brook.						located 50m or more away from the conservation wetlands. Hydrocarbon and hazardous substance management protocols have been implemented as per the site's hydrocarbon management in the CEMP. Following an environmental site inspection, stockpiles (of topsoil, mulch, and cleared vegetation) were found to be within 50m of CCWs in 4 locations. The stockpiles have been relocated and no environmental impact to the area has been observed. A notification was sent to DWER on 30 March 2026 (as per condition D1-1(1)) within 7 days of becoming aware of the potential non-compliance. Refer to Appendix C: Statement of Compliance.
595 Part B B4-1	Social Surroundings (Noise Amenity)	The proponent must ensure the implementation of the proposal following construction does not exceed the noise targets specified in Table 2 of State Planning Policy 5.4 Road and Rail Noise.	Ensure noise targets in SPP 5.4 are not exceeded	Annual CAR As constructed drawings	Overall	Ongoing	Not applicable	Not applicable to this reporting period.
595 Part B B5-1	Environmental Offsets	The proponent must implement offsets to counterbalance the significant residual impacts associated with Stage Two of the proposal on the following environmental values: (1) Corymbia calophylla – Kingia australis woodlands on heavy soils (floristic community type 3a as originally described in Gibson et al. 1994); (2) Corymbia calophylla – Xanthorrhoea preissii woodlands and shrublands, Swan Coastal Plain (floristic community type 3c as originally described in Gibson et al. 1994); (3) Regionally significant bushland; and (4) Conservation Category Wetlands.	Implement conditions B5-1 to B5-6. Implement the approved Tonkin Highway Extension (Stage 2) Offset Strategy	Annual CAR Tonkin Highway Extension (Stage 2) Offset Strategy	Overall	Ongoing	Not applicable	The Tonkin Highway Extension (Stage 2) Offset Strategy was approved by the Department on 15 August 2025. Offset Strategy includes offsets to counterbalance impacts to: (1) Corymbia calophylla – Kingia australis woodlands on heavy soils (floristic community type 3a as originally described in Gibson et al. 1994); (2) Corymbia calophylla – Xanthorrhoea preissii woodlands and shrublands, Swan Coastal Plain (floristic community type 3c as originally described in Gibson et al. 1994); (3) regionally significant bushland; and (4) Conservation Category

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 Part B B5-2	Environmental Offsets	The proponent must ensure the implementation of the offsets achieves the following environmental outcomes and objectives: (1) counterbalance the significant residual impacts to the environmental values identified in condition B5-1; (2) ensure on-ground management enhances or improves the vegetation condition of Corymbia calophylla communities along Mundijong Road east to Paterson Road; (3) ensure land acquisition and/or on-ground management offsets include threat abatement, revegetation and/or rehabilitation activities to achieve a positive environmental benefit to Corymbia calophylla communities; (4) ensure that on-ground management offsets for regionally significant bushland: (a) contain at least two (2) times the extent of regionally significant bushland impacted; (b) contain the same vegetation communities and/or vegetation complexes as the environmental value being impacted; and (c) contain, after the implementation of on-ground management, a vegetation condition that is equivalent to or better than the environmental value being impacted; (5) ensure that on-ground management offsets for Conservation Category Wetlands: (a) contain sufficient areas to meet the objective in condition B5-2(1); and	Prepare Offset Strategy to include the requirements of condition B5-2 Implement the approved Tonkin Highway Extension (Stage 2) Offset Strategy	Annual CAR Tonkin Highway Extension (Stage 2) Offset Strategy CEO Approval of Tonkin Highway Extension (Stage 2) Offset Strategy	Overall	Ongoing	Not Applicable	The Tonkin Highway Extension (Stage 2) Offset Strategy was approved by the Department on 15 August 2025. Offset strategy was developed to meet the outcomes and objectives described within Condition B5-2.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 Part B B5-3	Environmental Offsets	(b) attain a Good or better vegetation condition as a result of on-ground management The proponent must, in consultation with the DBCA , prepare a Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental Management Plan) to demonstrate how the environmental outcomes and objectives in condition B5-2 will be achieved, and submit it to the CEO .	Prepare an Offset Strategy (Environmental Management Plan) in consultation with DBCA	Tonkin Highway Extension (Stage 2) Offset Strategy	Pre-construction	Prior to offset values being impacted	Compliant and completed	The Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental Management Plan) was approved by the CEO on 15 August 2025.
	Environmental Offsets	The Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental Management Plan) required by condition B5-3 must: (1) demonstrate that the environmental outcomes and objectives in condition B5-2 will be met; (2) identify an area, or areas, (the Proposed Offset Conservation Area) to be acquired , to be acquired with on-ground management , and/or for on-ground management, and contains the environmental value/s identified in condition B5-1; (3) demonstrate how the environmental values within the Proposed Offset Conservation Areas will be maintained and improved or managed in order to counterbalance the significant residual impact to the environmental values in condition B5-1 and achieve the environmental outcomes and objectives in condition B5-2; (4) demonstrate application of the WA Environmental Offsets Metric and the WA Offsets Template, as described in the WA Environmental Offsets Guidelines, or any subsequent revisions of these documents; (5) indicate how the Proposed Offset Conservation Areas will be protected, being either the sites are ceded to the Crown for the purpose of management for conservation, or the sites are managed under other suitable mechanisms for the purpose of conservation; (6) where acquisition is proposed: (a) specify a timeframe associated with establishing the Proposed Offset Conservation Areas ; (b) identify the relevant management body for the on-going management of the Proposed Offset Conservation Areas , including its role, and the role of the proponent, and confirmation in writing that the relevant management body accepts responsibility for its role.	Prepare the Offset Strategy to include the requirements of condition B5-1	Annual CAR Tonkin Highway Extension (Stage 2) Offset Strategy CEO approval of Tonkin Highway Extension (Stage 2) Offset Strategy	Pre-construction	Prior to offset values being impacted	Compliant	The Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental Management Plan) was approved by the CEO on 15 August 2025.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
		(7) where on-ground management is proposed:						
		(a) state the targets for each environmental value to be achieved which will result in a tangible improvement to the environmental values being offset; and						
		(b) demonstrate the consistency of the targets with the environmental outcomes and objectives in condition B5-2 and the objectives of any relevant guidance, including but not limited to, recovery plans or area management plans.						
		(8) where a research offset is proposed:						
		(a) identify the objectives and intended outcomes of the proposed research;						
		(b) identify how the proposed research will result in a positive conservation outcome, and will either improve management and protection or address priority knowledge gaps that have been identified as a research priority needed to improve management and protection, for the environmental values identified in condition B5-1;						
		(c) demonstrate the consistency of the objectives and intended outcomes in condition B5-4(8)(a) with any relevant guidance, including but not limited to, recovery plans or area management plans, the principles of the WA Environmental Offsets Policy, the WA Environmental Offsets Guidelines, or any subsequent revisions of these documents;						
		(d) identify and justify how the research will support land acquired and/or on-ground management in achieving a positive conservation outcome; and						
		(e) identify the third party to carry out the work required to meet the outcomes of condition B5-4(8)(a), who is satisfactory for the role to the CEO.						
595 Part B B5-5	Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan	Within twelve (12) months of receiving confirmation by the CEO that the Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental Management Plan) required by condition B5-3 meets the requirements of condition B5-4, the proponent must prepare, and submit to the CEO, a Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan that:	Prepare Tonkin Highway Extension Offset Environmental Management Plan	Annual CAR Tonkin Highway Extension (Stage 2) Offset Strategy CEO approval of Tonkin Highway Extension (Stage 2) Offset Strategy	Overall	Within twelve (12) months of receiving confirmation by the CEO that the Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental Management Plan)	Not applicable	Not applicable to this reporting period. The submission of the Offset Environmental Management Plan for CEO approval is outside this compliance reporting period.
		(1) is consistent with the confirmed Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental						

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 Part B B5-6		Management Plan) required by condition B5-3; and				required by condition B5-3 meets the requirements of condition B5-4		
		(2) demonstrates how the environmental outcomes and objectives in condition B5-2 will be achieved, and how this achievement will be substantiated.						
		The Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan must:	Prepare and submit Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan to include requirements of condition B5-6	Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan	Overall	Ongoing	Not applicable	Not applicable to this reporting period.
		(1) demonstrate how the Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan is consistent with the confirmed Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental Management Plan);						The submission of the Offset Environmental Management Plan for CEO approval is outside this compliance reporting period.
		(2) demonstrate that the environmental outcomes and objectives in condition B5-2 will be met;						
		(3) be prepared in consultation with DBCA ;						
		(4) demonstrate that any floristic community type analysis of Proposed Offset Conservation Areas has been reviewed, and the findings supported by the DBCA ;						
		(5) spatially identify the Proposed Offset Conservation Areas and any other areas proposed as:						
		(a) acquired lands offset areas to receive on-ground management offset measures; and						
		(b) offset areas or lands to receive on-ground management offset measures;						
		(6) demonstrate how the environmental values within the Proposed Offset Conservation Areas will be maintained, improved and/or managed in order to counterbalance the significant residual impact to the environmental values in condition B5-1 and achieve the environmental outcomes and objectives in condition B5-2;						
		(7) demonstrate application of the principles of the WA Environmental Offsets Policy, or any subsequent revision of this document						
		(8) identify how the ongoing performance of the offset measures, and whether they are achieving the outcomes and objectives in condition B5-2, will periodically be made publicly available;						
		(9) for the land acquisition offsets identified in condition B5-6(5) (a):						
		(a) demonstrate that the Proposed Offset Conservation Areas contain the minimum extents of the environmental values identified in condition B5-1 required to achieve the						

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
		environmental outcomes and objectives in condition B5-2;						
		(b) identify how the Proposed Offset Conservation Areas will be protected, being either the sites are ceded to the Crown for the purpose of management for conservation, or the sites are managed under other suitable mechanism for the purpose of conservation as agreed by the CEO by notice in writing;						
		(c) specify the quantum of works associated with establishing the Proposed Offset Conservation Areas , including a contribution for maintaining the offset for at least twenty (20) years after completion of purchase; and						
		(d) identify the relevant management body for the on-going management of the Proposed Offset Conservation Areas, including its role, and the role of the proponent, and confirmation in writing that the relevant management body accepts responsibility for its role						
		(10) for on-ground management offsets identified in condition B5-6(5)(b):						
		(a) state the targets for each environmental value to be achieved, including completion criteria, which will result in a tangible improvement to the environmental values being offset. For revegetation offsets relating to Corymbia calophylla - Xanthorrhoea preissii woodlands and shrublands, Swan Coastal Plain (floristic community type 3c as originally described in Gibson et al. 1994), this must include, but not be limited to:						
		(i) species composition characteristic of Corymbia calophylla - Xanthorrhoea preissii woodlands and shrublands, Swan Coastal Plain (floristic community type 3c as originally described in Gibson et al. 1994);						
		(ii) quadrat analysis capable of verifying that Corymbia calophylla - Xanthorrhoea preissii woodlands and shrublands, Swan Coastal Plain (floristic community type 3c as originally described in Gibson et al. 1994) has been reestablished across the area subject to revegetation; and						

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
		(iii) adaptive management to inform successful revegetation for <i>Corymbia calophylla</i> - <i>Xanthorrhoea preissii</i> woodlands and shrublands, Swan Coastal Plain (floristic community type 3c as originally described in Gibson et al. 1994); (b) demonstrate the consistency of the targets with the environmental outcomes and objectives in condition B5-2 and the objectives of any relevant guidance, including but not limited to, recovery plans or area management plans; (c) detail the on-ground management actions, with associated timeframes for implementation and completion, to achieve the targets identified in condition B5-6(10)(a); (d) detail the monitoring, reporting and evaluation mechanisms for the targets and actions identified under condition B5-6(10)(a) and condition B5-6(10)(c). (11) where research offsets are proposed, prepare a research program that: (a) identifies the objectives and intended outcomes, and specifies the deliverables and completion criteria; (b) identifies how the research will result in a positive conservation outcome, and will either improve management and protection or address priority knowledge gaps that have been identified as a research priority needed to improve management and protection, for the environmental values identified in condition B5-1; (c) demonstrate the consistency of the objectives in condition B5-6(1)(a) with any relevant guidance, including but not limited to, recovery plans or area management plans, the principles of the WA Environmental Offsets Policy, the WA Environmental Offsets Guidelines, or any subsequent revisions of these documents; (d) identifies and justifies the how the research will support land acquired and/or in achieving a positive conservation outcome; (e) provides an implementation and reporting schedule, including an outline of key activities, all deliverables, stages of implementation, reporting of research results						

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
		(including interim results), reporting on implementation status, and milestones towards completion criteria;						
		(f) identifies the governance arrangements including responsibilities for implementing, and oversight of, the research program, agreements with government agencies, agreements with any third parties, and contingency measures;						
		(g) identify how a research program summary, and the results (including interim results) of the research program will be communicated and/or published in an open access format; and						
		(h) identifies the third party to carry out the work required to meet the outcomes of condition B5-6(1)(a), who is satisfactory for the role to the CEO. In applying to the CEO for endorsement of the selected third parties, the proponent shall provide:						
		(i) demonstration of the track record, experience, qualifications and competencies of the proposed third party to carry out the work and achieve the outcomes.						
595 Part C C1-1	Environmental Management Plans: Conditions Related to Commencement of Implementation of the Proposal	The proponent must: (1) not undertake ground disturbing activities to values identified in condition B5-1 until the CEO has confirmed in writing that the Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental Management Plan) required by condition B5-3 meets the requirements of condition B5-4.	Undertake no ground disturbing activities to the values identified in Condition B5-1 until the CEO has approved the Tonkin Highway Extension (Stage 2) Offset Strategy	Annual CAR CEO approval of Tonkin Highway Extension (Stage 2) Offset Strategy	Pre-Construction	Prior to ground disturbance activities occurring to the values in B5-1	Compliant	The Tonkin Highway Extension (Stage 2) Offset Strategy (Environmental Management Plan) was approved by the CEO on 15 August 2025. Areas containing values that were the subject of the Offset strategy were not impacted until approval of the Offset Strategy was received on 15 August 2025.
595 Part C C2-1	Environmental Management Plans: Conditions Relating to Approval, Implementation, Review and Publication	Upon being required to implement an environmental management plan under Part B, or after receiving notice in writing from the CEO under condition C1-1 that the environmental management plan(s) required in Part B satisfies the relevant requirements, the proponent must: (1) implement the most recent version of the confirmed environmental management plan; and (2) continue to implement the confirmed environmental management plan referred to in condition C2-1(1), other than for any period which the CEO confirms by notice in writing that it has been demonstrated that the relevant requirements for the environmental management	Implementation of the approved and most recent version of Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan	Annual CAR CEO approval of Tonkin Highway Extension (Stage 2) Offset Strategy	Overall	Ongoing	Not applicable	The Tonkin Highway Extension (Stage 2) Offset Strategy was approved by the Department on 15 August 2025. Offset Plan is being developed based on the approved strategy.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 Part C C2-2		plan have been met, or are able to be met under another statutory decision-making process, in which case the implementation of the environmental management plan is no longer required for that period. The proponent: (1) may review and revise a confirmed environmental management plan provided it meets the relevant requirements of that environmental management plan, including any consultation that may be required when preparing the environmental management plan; (2) must review and revise a confirmed environmental management plan and ensure it meets the relevant requirements of that environmental management plan, including any consultation that may be required when preparing the environmental management plan, as and when directed by the CEO; and (3) must revise and submit to the CEO the confirmed Environmental Management Plan if there is a material risk that the outcomes or objectives it is required to achieve will not be complied with, including but not limited to as a result of a change to the proposal.	Review and revise Management Plans as required and submit to the CEO if there is material risk the outcomes and objectives will not be complied with as a result of the change	Annual CAR Revised Management Plans CEO correspondence (if required)	Overall	Ongoing	Not applicable	Offset Plan is being developed based on the approved strategy.
595 Part C C2-3		Despite condition C2-1, but subject to conditions C2-4 and C2-5, the proponent may implement minor revisions to an environmental management plan if the revisions will not result in new or increased adverse impacts to the environment or result in a risk to the achievement of the limits, outcomes or objectives which the environmental management plan is required to achieve.	Implement minor revisions to management plans as required	Reviewed and or revised environmental management plan Annual CAR	Overall	Ongoing	Not applicable	Not required at this stage.
595 Part C C2-4		If the proponent is to implement minor revisions to an environmental management plan under condition C2-3, the proponent must provide the CEO with the following at least twenty (20) business days before it implements the revisions: (1) the revised environmental management plan clearly showing the minor revisions; (2) an explanation of and justification for the minor revisions; and (3) an explanation of why the minor revisions will not result in new or increased adverse impacts to the environment or result in a risk to the achievement of the limits, outcomes or objectives which the environmental management plan is required to achieve.	Implement requirements of condition C2-4 if minor revisions to management plans are required	Annual CAR CEO correspondence	Overall	20 business days prior to implementation of revised management plan	Not applicable	Not required at this stage.
595 Part C		The proponent must cease to implement any revisions which the CEO notifies the proponent (at any time) in	Implement requirements of condition C2-5	Annual CAR	Overall	Ongoing	Not applicable	No CEO notifications have been issued

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
C2-5		writing may not be implemented.		CEO correspondence				
595 Part C C2-6		Confirmed environmental management plans, and any revised environmental management plans under condition C2-4(1), must be published on the proponent's website and provided to the CEO in electronic form suitable for on-line publication by the Department of Water and Environmental Regulation within twenty (20) business days of being implemented, or being required to be implemented (whichever is earlier).	Publish Environmental Management Plans and provide electronic copies to the CEO	Evidence of website publication	Overall	Within 20 business days of being implemented or being required to be implemented	Compliant	The Offset Management Strategy was approved by the CEO and has been published on the Main Roads webpage. Construction Project Compliance Reports Main Roads Western Australia Link to Tonkin Highway Extension (Stage 2) Offset Strategy: https://www.mainroads.wa.gov.au/4ae4d6/globalassets/community-environment/tonkin-highway-extension-ms-595-offset-strategy.pdf
595 Part C C3-1	Conditions Related to Monitoring	Relevant to Stage Two the proponent must undertake monitoring capable of: (1) substantiating whether the proposal limitations and extents in Part A are exceeded; and (2) detecting and substantiating whether the environmental outcomes identified in Part B are achieved (excluding any environmental outcomes in Part B where an environmental management plan is expressly required to monitor achievement of that outcome);	Implement Proposal and clearing in accordance with limitation and extents of Condition A1-1	Annual CAR Design, survey and GIS files	Overall	Ongoing	Compliant	The clearing Figures 2 and 3 in Appendix B and shapefiles provided with this annual report show that clearing has not exceeded the approved extents in Part A. The monitoring implemented to address the environmental outcomes identified in Part B is discussed in the Tonkin Extension MS 595 CAR Compliance Monitoring Report required by Condition C3-2. Refer to Appendix E: C3-1(1&2) Tonkin Extension MS 595 CAR Compliance Monitoring Report.
595 Part C C3-2		The proponent must submit as part of the Compliance Assessment Report required by condition D2, a compliance monitoring report that: (1) outlines the monitoring that was undertaken during the implementation of the proposal; (2) identifies why the monitoring was capable of substantiating whether the proposal limitation and extents in Part A relevant to Stage Two are exceeded; (3) for any environmental outcomes to which condition C3-1(2) applies, identifies why the monitoring was scientifically robust and capable of detecting whether the environmental outcomes in Part B relevant to Stage Two are met;	Prepare and submit annual CARs to include the requirements of condition C3-2	Annual CAR	Overall	Ongoing	Compliant	A Compliance Monitoring Report has been prepared for this CAR's reporting period. Refer to Appendix E: C3-1(1&2) Tonkin Extension MS595 Compliance Monitoring Report (C3-2).

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 Part C C4-1	Environmental Management Plans: Conditions Related to Management Actions and Targets for Objective Based Conditions	(4) outlines the results of the monitoring;	Tonkin Highway Extension (Stage 2) Offset Strategy and Tonkin Highway Environmental Management Plan to meet the requirements of condition C4-1	Annual CAR Tonkin Highway Extension (Stage 2) Offset Strategy Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan	Overall	Ongoing	Not Applicable	Offset Plan is being developed based on the approved strategy.
		(5) reports whether the proposal limitations and extents in Part A relevant to Stage Two were exceeded and (for any environmental outcomes to which condition C3-1(2) applies) whether the environmental outcomes in Part B relevant to Stage Two were achieved, based on analysis of the results of the monitoring; and						
		(6) reports any actions taken by the proponent to remediate any potential non-compliance.						
595 Part C C4-2		The environmental management plans required under condition B5-5 must contain provisions which enable the achievement of the relevant objectives of those conditions and substantiation of whether the objectives are reasonably likely to be met, and must include:	Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan to meet the requirements of condition C4-2	Annual CAR Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan	Overall	Ongoing	Not Applicable	Offset Plan is being developed based on the approved strategy.
		(1) management actions ; (2) management targets ; (3) contingency measures if management targets are not met; and (4) reporting requirements.						
595 Part C C4-3		The environmental management plan required under condition B5-5 is also required to include:	Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan to meet the requirements of condition C4-2	Annual CAR Tonkin Highway Extension (Stage 2) Offset Environmental Management Plan	Overall	Life of the proposal	Not Applicable	Not applicable to this reporting period.
		(1) an assessment of wetland values and functions impacted during construction and gained through provision of offsets.						
595 Part D D1-1	Compliance, Time Limits, Audits And Other Conditions Non-compliance Reporting	Without limiting condition C2-1, the failure to achieve an environmental objective, or implement a management action , regardless of whether contingency measures have been or are being implemented, represents a non-compliance with these conditions.	Monitor objectives and management actions and if a non-compliance has occurred meet the requirements of conditions D1-1 and D1-2.	Annual CAR	Overall	Report non-compliance/s to the CEO within seven (7) days	Compliant	There has been one non-compliance during the reporting period which was reported to the CEO via email on 30 March 2026, within the seven day timeframe. Refer to Appendix C: Statement of Compliance.
		If the proponent becomes aware of a potential non-compliance, the proponent must: (1) report this to the CEO within seven (7) days; (2) implement contingency measures ; (3) investigate the cause; (4) investigate environmental impacts; (5) advise rectification measures to be implemented; (6) advise any other measures to be implemented to						

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
		ensure no further impact;						
		(7) advise timeframe in which contingency, rectification and other measures have and/or will be implemented; and						
		(8) provide a report to the CEO within twenty-one (21) days of being aware of the potential non-compliance, detailing the measures required in conditions D1-1(1) to D1-1(7) above.						
595 Part D D1-2		Failure to comply with the requirements of a condition, or with the content of an environmental management plan required under a condition, constitutes a non-compliance with these conditions, regardless of whether the contingency measures, rectification or other measures in condition D1-1 above have been or are being implemented.	On becoming aware of a non-compliance implement the requirements of condition D1-1	Annual CAR Non-compliance reporting correspondence	Overall	Ongoing	Compliant	There has been one non-compliance during the reporting period which was reported to the CEO and addressed the requirements of this condition. Further information is included in the Appendix C: Statement of Compliance.
595 Part D D2-1	Compliance, Time Limits, Audits And Other Conditions	The proponent must provide an annual Compliance Assessment Report to the CEO for the purpose of determining whether the implementation conditions are being complied with.	Prepare an annual compliance report and submit to the CEO	Annual CAR	Overall	Ongoing	Compliant	This CAR will be provided to the CEO in accordance with this condition.
595 Part D D2-2	Compliance Reporting	Unless a different date or frequency is approved by the CEO, the first annual Compliance Assessment Report must be submitted within fifteen (15) months of the date of this Statement, and subsequent reports must be submitted annually from that date.	Prepare an annual compliance report and submit to the CEO	Annual CAR	Overall	Ongoing	Compliant	This CAR will be submitted to the CEO in accordance with this condition.
595 Part D D2-3		Each annual Compliance Assessment Report must be endorsed by the proponent's Chief Executive Officer, or a person approved by proponent's Chief Executive Officer to be delegated to sign on the Chief Executive Officer's behalf.	The CEO or an approved Main Roads delegate shall endorse the annual compliance report	CEO (or delegate) endorsement of CAR	Overall	Ongoing	Compliant	This CAR has been endorsed by a delegate approved to sign on the behalf of Main Roads Chief Executive Officer's behalf.
595 Part D D2-4		Each annual Compliance Assessment Report must: (1) state whether each condition of this Statement has been complied with, including: (a) exceedance of any proposal limits and extents; (b) achievement of environmental outcomes; (c) achievement of environmental objectives; (d) requirements to implement the content of environmental management plans; (e) monitoring requirements; (f) implement contingency measures; (g) requirements to implement adaptive	Prepare and submit an annual compliance report to meet the requirements of condition D2-4	Annual CAR	Overall	Ongoing	Compliant	This CAR meets the requirements of this condition. This CAR will be published consistent with the requirements of this condition.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
		management; and (h) reporting requirements; (2) include the results of any monitoring (inclusive of any raw data) that has been required under Part C in order to demonstrate that the limits in Part A, and any outcomes or any objectives are being met; (3) provide evidence to substantiate statements of compliance, or details of where there has been a non-compliance; (4) include the corrective, remedial and preventative actions taken in response to any potential non-compliance; (5) be provided in a form suitable for publication on the proponent's website and online by the Department of Water and Environmental Regulation; and (6) be prepared and published consistent with the latest version of the Compliance Assessment Plan required by condition D2-5 which the CEO has confirmed by notice in writing satisfies the relevant requirements of Part C and Part D.						
595 Part D D2-5		The proponent must prepare a Compliance Assessment Plan relevant to Stage Two which is submitted to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition D2-2, or prior to implementation of the proposal, whichever is sooner.	Prepare a Compliance Assessment Plan and submit to the CEO for approval	Compliance Assessment Plan	Pre-construction	At least six (6) months prior to the submission of the first Compliance Assessment Report to the Department or prior to implementation of the proposal	Compliant - completed	The Compliance Assessment Plan was submitted to the CEO on 3 June 2025 and approved on 24 June 2025.
595 Part D D2-6		The Compliance Assessment Plan must include: (1) what, when and how information will be collected and recorded to assess compliance; (2) the methods which will be used to assess compliance; (3) the methods which will be used to validate the adequacy of the compliance assessment to determine whether the implementation conditions are being complied with; (4) the retention of compliance assessments; (5) the table of contents of Compliance Assessment Reports, including audit tables; and (6) how and when Compliance Assessment Reports	Submit Compliance Assessment Plan to meet the requirements of condition D2-6	Compliance Assessment Plan	Pre-construction	At least six (6) months prior to the submission of the first Compliance Assessment Report to the Department or prior to implementation of the proposal	Compliant - completed	The Compliance Assessment Plan was submitted to the CEO on 3 June 2025 and approved on 24 June 2025.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 Part D D3-1	Contact Details	will be made publicly available, including usually being published on the proponent's website within sixty (60) days of being provided to the CEO. The proponent must notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty-eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.	Notify the CEO in writing of any change to proponent details.	Correspondence with CEO of change to proponent details	Overall	Within 28 days of a change in name, physical address, or postal address	Not applicable	Not applicable to this reporting period. Main Roads details have not changed during the reporting period.
595 Part D D4-1	Public Availability of Data	Subject to condition D4-2, within a reasonable time period approved by the CEO upon the issue of this Statement and for the remainder of the life of the proposal, the proponent must make publicly available, in a manner approved by the CEO, all validated environmental data collected before and after the date of this Statement relevant to the proposal (including sampling design, sampling methodologies, monitoring and other empirical data and derived information products (e.g. maps)), environmental management plans and reports relevant to the assessment of this proposal and implementation of this Statement.	Make publicly available all validated environmental data collected before and after the date of this Statement relevant to the Main Roads website	Annual CAR Evidence of data being published on website	Overall	Ongoing	Compliant	All relevant data, environmental management plans and reports relevant to MS595 have been made publicly available in accordance with this condition and can be found here: Construction Project Compliance Reports Main Roads Western Australia
595 Part D D4-2		If: (1) any data referred to in condition D4-1 contains trade secrets; or (2) any data referred to in condition D4-1 contains particulars of confidential information (other than trade secrets) that has commercial value to a person that would be, or could reasonably be expected to be, destroyed or diminished if the confidential information were published, the proponent may submit a request for approval from the CEO to not make this data publicly available and the CEO may agree to such a request if the CEO is satisfied that the data meets the above criteria.	Submit a request for approval from the CEO for information to remain confidential as required	Annual CAR CEO correspondence	Overall	Ongoing	Not applicable	Not applicable to this reporting period.
595 Part D D4-3		In making such a request the proponent must provide the CEO with an explanation and reasons why the data should not be made publicly available.	Submit a request for approval from the CEO for information to remain confidential as required	Annual CAR CEO correspondence	Overall	Ongoing	Not applicable	Not applicable to this reporting period.
595 Part D D5-1	Independent Audit	The proponent must arrange for an independent audit of compliance with the conditions of this statement, including achievement of the environmental outcomes and/or the environmental objectives and/or environmental performance with the conditions of this statement, as and when directed by the CEO .	Engage Qualified Auditor/s as required by the CEO	Submit requested auditors report to the CEO	Overall	Ongoing	Not applicable	Not applicable to this reporting period. The CEO has not requested an independent audit.

OFFICIAL

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
595 Part D D5-2		The independent audit must be carried out by a person with appropriate qualifications who is nominated or approved by the CEO to undertake the audit under condition D5-1.	Engage a qualified auditor that is approved by the CEO	CEOs approval of auditor	Overall	Ongoing	Not applicable	Not applicable to this reporting period. The CEO has not requested an independent audit.
595 Part D D5-3		The proponent must submit the independent audit report with the Compliance Assessment Report required by condition D2, or at any time as and when directed in writing by the CEO . The audit report is to be supported by credible evidence to substantiate its findings.	Submit audit report with annual CAR	Annual CAR Completed independent audit	Overall	Ongoing	Not applicable	Not applicable to this reporting period. The CEO has not requested an independent audit.
595 Part D D5-4		The independent audit report required by condition D5-1 is to be made publicly available in the same timeframe, manner and form as a Compliance Assessment Report, or as otherwise directed by the CEO .	Make CAR publicly available	Annual CAR Evidence of CAR being published on website	Overall	Ongoing	Not applicable	Not applicable to this reporting period. The CEO has not requested an independent audit.

Initials:

Document No: D26#607795

APPENDIX E: COMPLIANCE EVIDENCE ATTACHMENTS

Condition	Evidence Reference	Title
B1-2(1)	Implement hygiene protocols	Phytophthora Dieback Occurrence Report for Tonkin Highway Extension, May 2025
C3-1(1&2)	Compliance Assessment Report required by condition D2	C3-1(1&2) Tonkin Extension MS 595 CAR Compliance Monitoring Report

B1-2(1): PHYTOPHTHORA DIEBACK OCCURRENCE REPORT FOR TONKIN HIGHWAY EXTENSION, MAY 2025



Phytophthora Dieback Occurrence Report for Tonkin Highway Extension

Prepared for SLR Consulting Australia Pty Ltd

May 2025



Client	SLR Consulting Australia Pty Ltd
Report name	Phytophthora Dieback Occurrence Report for Tonkin Highway Extension

Version History

Author	Reviewer	Version	Version Number	Submission Date
A. Lange	D. Delaporte	Draft	0.1	14/05/2025

© Glevan Consulting 2025

26 Forrest Street, Pinjarra WA 6208

P: 1300 453 826

E: mail@glevan.com.au

W: www.glevan.com.au

This report has been prepared in accordance with the scope of work agreed between SLR Consulting Australia Pty Ltd and Glevan Consulting and contains results and recommendations specific to the agreement. Results and recommendations in this report should not be referenced for other projects without the written consent of Glevan Consulting.

Procedures and guidelines stipulated in various manuals, particularly Phytophthora Dieback Interpreters Manual for lands managed by the Department (DBCA), are applied as the base methodology used by Glevan Consulting in the delivery of the services and products required by this scope of work. These guidelines, along with overarching peer review and quality standards ensure that all results are presented to the highest standard.

Glevan Consulting has assessed areas based on existing evidence presented at the time of assessment. The Phytophthora pathogen may exist in the soil as incipient disease. Methods have been devised and utilised that compensate for this phenomenon; however, very new centres of infestation, that do not present any visible evidence, may remain undetected during the assessment.

Executive Summary

Glevan Consulting was commissioned by SLR Consulting Australia Pty Ltd on behalf of the Tonkin Highway Alliance to conduct a Phytophthora Dieback assessment of the Tonkin Highway Extension (Project Area) within the Jarrahdale-Serpentine region. The Project Area totalled 304.51 hectares (ha). The Project Area extended from north of Thomas Road to the Southwest Highway in the south.

The assessment was conducted on the 23rd of April 2025 by Ashleigh Lange of Glevan Consulting. Two infestations of Phytophthora Dieback, covering 4.71 ha, were observed during the assessment. An additional 2.25 ha of Permanently Uninterpretable Unprotectable vegetation was also identified. The remaining 297.56 of Project Area was Excluded Unprotectable from the assessment due to being degraded or void of vegetation.

Two soil and tissue samples were taken during the Tonkin Hwy Extension Project 2025, both returning results positive for *Phytophthora cinnamomi*.

The validity of the hygiene boundaries mapped for this project is twelve months from the completion of this project.

Table of Contents

1. Introduction	7
2. Background – Phytophthora Species and Dieback Disease	9
3. Materials and Methods.....	12
3.1. Project Area	12
3.2. Assessment Method	13
3.3. Other Phytophthora Species.....	14
3.4. Collection of Evidence of Phytophthora Dieback.....	15
3.5. Demarcation	15
3.6. Soil and Tissue Samples.....	16
3.7. Determining Protectable Areas	18
4. Results	19
4.1. Desktop Assessment	19
4.2. Phytophthora Dieback Distribution	20
4.3. Disease Symptoms and Expression.....	20
4.4. Permanently Uninterpretable Areas	21
4.5. Excluded Areas	21
4.6. Allocation of Categories	21
4.7. Sample Summary.....	21
5. Discussion	22
6. Bibliography	23
7. Appendices.....	24
7.1. Phytophthora Dieback Occurrence Map	24
7.2. Mapping Metadata	24
7.3. Shapefile Spatial Data	25

List of Figures

Figure 1 – Project Area location.	8
Figure 2 – Phytophthora Dieback Occurrence Map 1.....	26
Figure 3 – Phytophthora Dieback Occurrence Map 2.....	27
Figure 4 – Phytophthora Dieback Occurrence Map 3.....	28
Figure 5 – Phytophthora Dieback Occurrence Map 4.....	29

List of Tables

Table 1 – Keighery Vegetation Condition Scale and Assessability (Department of Parks and Wildlife, 2015).	12
Table 2 – Phytophthora Dieback Assessment for Vegetation Condition.....	13
Table 3 – Demarcation Flagging Colours.	16
Table 4 – Determination of Requirement for Sampling (Department of Parks and Wildlife, 2015).	17

Table 5 – Results Summary of the Project Area.	21
Table 6 – Soil and Tissue Sample Results.....	21

Glossary

Assessment Area	The portion of the Project Area where Phytophthora occurrence assessment is possible or will be possible after vegetation recovery.
Biomass	The total quantity or weight (density) of organisms in a given area.
Buffer	The area between the edge of visible disease symptoms and demarcation.
Clean On Entry	A requirement at a defined, signposted point where entering machinery and vehicles are to be free of soil, plant, and other material to minimise the risk of spreading weeds, pests and diseases.
DBCA	Department of Biodiversity, Conservation and Attractions.
Demarcation	The physical installation and representation of boundaries between hygiene categories after interpretation.
Phytophthora Dieback	The disease of plants caused by infection by the soil-borne organisms of the genus <i>Phytophthora</i> , of which <i>P. cinnamomi</i> is the most widespread and destructive.
Disease Impact	The degree of harm caused by Phytophthora Dieback (high, moderate, low).
Excluded Area	An area of high disturbance where natural vegetation is unlikely to recover.
Host	A plant species that may be Infested with the pathogen but not cause disease.
Indicator Species	Plant species susceptible to Phytophthora disease and reliably show early symptoms.
Infection	The invasion of the disease to an individual plant and not the population.
Infestation	The invasion of the disease into a population of plants.
Infested	An area that a registered interpreter has determined is expressing disease symptoms that indicate the presence of the pathogen <i>Phytophthora cinnamomi</i> .
Incipient Disease	A disease that is not visibly symptomatic.
Interpretation	Determining disease presence or absence in natural ecosystems using observable factors.
Not Yet Resolved	Phytophthora occurrence diagnosis cannot be made because of inconsistent evidence.
Pathogen	Phytophthora species.
Phytophthora Occurrence Assessment	The entire scope of work that relates to the delivery of a Phytophthora occurrence map and report.
Permanently Uninterpretable	A natural area with inadequate visible symptoms present to make a diagnosis.
Project Area (Study Area)	The proponent's area of interest, including the area where disturbance activities could occur, including access and egress to activity areas.
Protectable Area	Portions of the Project Area over which hygiene management rules for the plant pathogen <i>Phytophthora</i> , including clean on entry, will apply. These areas are generally free of disease.
Susceptible	Likely or liable to be harmed by Phytophthora pathogen.
Uninfested	An area that a registered interpreter has determined may be free of plant disease symptoms that indicate the presence of the pathogen <i>Phytophthora cinnamomi</i> .
Temporarily Uninterpretable	A naturally vegetated area that has had disturbance and is likely to recover from that disturbance in the short term.
Unprotectable	A disease-free area that is likely to become infested within a given time.
Vector	Any agent that acts as a carrier or transporter.

1. Introduction

Glevan Consulting was commissioned by SLR Consulting Australia Pty Ltd on behalf of the Tonkin Highway Alliance to conduct a Phytophthora Dieback assessment of the Tonkin Highway Extension within the Jarrahdale-Serpentine region. The Project Area totalled 304.51 hectares (ha) (Figure 1).

This assessment was required to determine the disease status of remnant vegetation for the purpose of future works associated with the Highway extension.

The assessment was conducted by Ashleigh Lange of Glevan Consulting in April 2025. The validity of the hygiene boundaries mapped for this project is twelve months from the completion of this project.

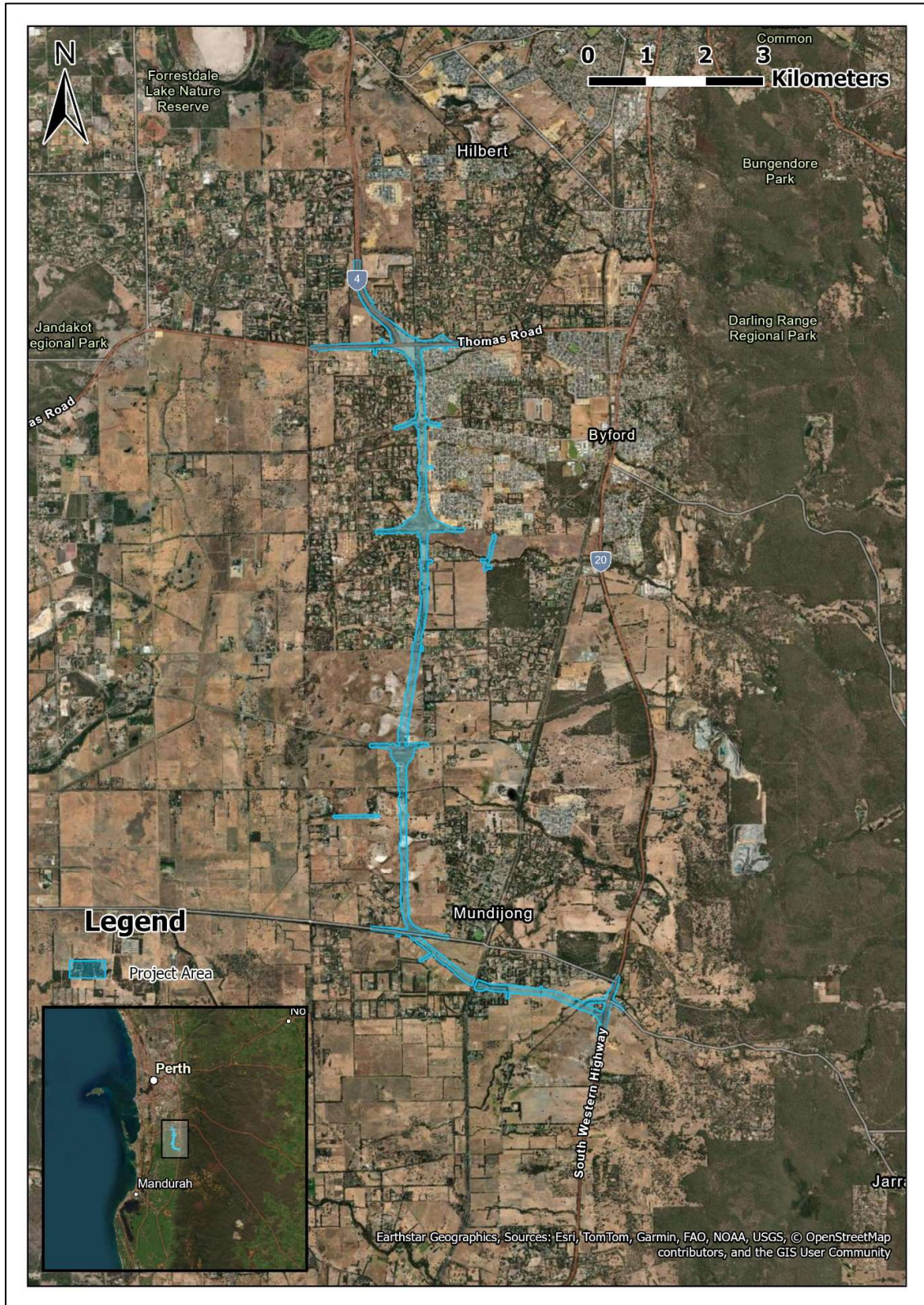


Figure 1 – Project Area location.

2. Background – Phytophthora Species and Dieback Disease

Thousands of Australian native plant species are susceptible to Phytophthora Dieback (Dieback), a disease caused by the pathogen *Phytophthora cinnamomi* and other *Phytophthora* species. Whilst many root pathogens that cause disease are present within the Australian landscape, *Phytophthora cinnamomi* has caused the most significant impact to date and poses the biggest threat (Commonwealth of Australia, 2018). This disease is a significant threat to Australia's biodiversity, placing important plant species at risk of death, local extirpation or even extinction. Its impact on plant communities can also result in major declines in some insect, bird and animal species due to the loss of shelter, nesting sites and food sources. Phytophthora Dieback can cause permanent damage to ecosystems. Once an area is Infested with the pathogen, eradication is usually impossible. Awareness that human activity can easily spread the pathogen will help prevent an increase in the extent of this disease (Commonwealth of Australia, 2018).

P. cinnamomi is one of at least 32 *Phytophthora* species that exist in Australia. Whilst *P. cinnamomi* has to date had the largest impact on the Western Australia vulnerable zone, other destructive *Phytophthora* species are emerging in Australia such as *P. arenaria*, *P. constricta*, *P. cryptogea*, *P. elongata*, *P. gregata*, *P. megasperma* and *P. multivora*. *P. multivora* is notable in having been linked to declines in vegetation within the Western Australian vulnerable zone (Commonwealth of Australia, 2018).

P. cinnamomi is a microscopic water mould that belongs to the class Oomycetes. Oomycetes organisms are filamentous and absorptive and reproduce both sexually and asexually. *Phytophthora* species are considered parasitic, behaving largely as a necrotrophic pathogen causing damage to the host plant's root tissues because of infection and invasion (Department of Parks and Wildlife, 2015). The pathogen infects a host when it enters at a cellular level and damages the cell structure.

Dieback is the result of interaction between three physical components forming a 'disease triangle': the pathogen (*Phytophthora* species), the environment and the host. All three components are needed for the disease to develop over time. A population of hosts is made up of susceptible, infected and immune or resistant individuals.

The relationship between the presence of *Phytophthora* and the development of Dieback disease is variable based on the susceptibility of native plant species and the different environmental characteristics, landform types and rainfall zones across bioregions.

The plant host is a highly variable part of the disease triangle. Assessment sites may range from having no susceptible hosts present through to almost all plants present in the environment demonstrating high levels of susceptibility to *P. cinnamomi*. Over 2000 potential host species for the *P. cinnamomi* pathogen exist in Western Australia alone (Commonwealth of Australia, 2018). Skilled Dieback Interpreters are able to observe and interpret disease presence using hundreds of different susceptible plant species (referred to as indicator species) across multiple vegetation communities. Interpreters are able to recognise when disease detection is not possible due to insufficient hosts being present within an area.

Within the vulnerable zone of Western Australia, three main family groups are regarded as highly susceptible to Phytophthora Dieback disease:

1. Proteaceae
2. Ericaceae
3. Xanthorrhoeaceae.

The Proteaceae plant family demonstrates a high level of susceptibility to the *Phytophthora cinnamomi* pathogen. Genera such as *Banksia*, *Isopogon*, *Adenanthos*, *Persoonia*, *Petrophile* and *Xylomelum* demonstrate high susceptibility, providing reliable indicators through much of the vulnerable zone of Western Australia. *Andersonia*, *Astroloma* and *Leucopogon* species from the Ericaceae family also demonstrate high levels of susceptibility, whilst other species within the family do not demonstrate the same level of vulnerability to the pathogen. All species contained in the Xanthorrhoeaceae family are considered to be reliable indicator species.

Not all species within the vulnerable zone of Western Australia are susceptible to Dieback, with some species demonstrating a resistance to the pathogen. Resistance to the pathogen is recognised within genera such as *Acacia*, *Calothamnus*, *Eucalyptus* (excluding *Eucalyptus marginata*), *Lepidosperma* and *Melaleuca*, among others. Resistance to *P. cinnamomi* is dependent on a multitude of factors such as the ability for a species to compartmentalise the infected part of a root or the plants ability to quickly regrow new roots in order to replace those infected by the pathogen (Commonwealth of Australia, 2018). It has been recognised under field conditions that herbaceous perennials, annuals and

geophytes demonstrate greater resistance to *Phytophthora* Dieback compared to woody perennials (Commonwealth of Australia, 2018).

Where species considered to be resistant to the *P. cinnamomi* pathogen are observed to be dying suddenly, Armillaria Rot Disease (ARD) may be considered to be the cause of death. ARD is caused by the *Armillaria luteobubalina* fungus. Drought conditions are another contributing cause of death other than ARD to *Phytophthora* resistant species.

Temperature, rainfall and soil type all affect the impact that Dieback has on an area. *P. cinnamomi* does not generally cause significant vegetation declines in areas that receive less than 400 millimetres of rain annually and occur north of latitude 30° (O’Gara et al., 2005 as cited in Commonwealth of Australia, 2018). Within Western Australia, the vulnerable zone exists in areas of Mediterranean climate (warm to hot, dry summers and mild to cool, wet winters) where annual rainfall exceeds 400 millimetres in the southwest of Western Australia. The most significant impact of the pathogen is observed in areas receiving an annual rainfall of above 800 to 1000 millimetres.

Soil characteristics also play a significant role in the occurrence of Dieback. Moisture is essential for the survival of the *Phytophthora* pathogen and for sporangia production, with wet soil conditions and warm temperatures favouring the release of motile zoospores from the sporangia. Optimal temperatures for the survival and reproduction of the pathogen are between 21°C to 30°C, a temperature range that is common through the vulnerable zone of Western Australia (Department of Parks and Wildlife, 2015). The growth and reproduction of the pathogen is also affected by soil pH, with a favourable pH range of between five and six (mildly acidic). Strong host resistance is observed in areas with a high level of soil fertility, creating a less favourable soil environment for the pathogen.

Whilst autonomous (active) spread of the disease does occur, *P. cinnamomi* is passively spread (or vectored) by animals and human activity via the movement of soils, allowing the rapid infestation of a new area by the pathogen. The movement of even small pieces of vegetation or soil containing viable inoculum (zoospores, chlamydospores, oospores) can result in the spread of the pathogen. Passive spread by a vector can occur both overland and in subsurface water flow (Commonwealth of Australia, 2018). Human induced spread of the *P. cinnamomi* pathogen is a significant risk in the Western Australian landscape. Activities such as road construction and maintenance, commercial activities (timber harvesting and mining), off-road vehicle movement and bush walking activities can result in the spread of the disease should movement of Infested soil occur.

3. Materials and Methods

3.1. Project Area

Sections of the Project Area were categorised as Excluded if the vegetation was suffering from significant disturbance. Significant disturbance is based on Vegetation Condition Scale (Keighery, 1994) shown in Table 1. Any remaining area was categorised post-assessment into Phytophthora Dieback occurrence categories (Table 2).

Table 1 – Keighery Vegetation Condition Scale and Assessability (Department of Parks and Wildlife, 2015).

Assessability	Scale		Vegetation Condition
Assessable	1	Pristine	Pristine or nearly so; no obvious signs of disturbance.
	2	Excellent	Vegetation structure intact; disturbance affecting individual species and weeds are non-aggressive species.
	3	Very good	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Possibly assessable – Discretion required	4	Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Not assessable – Excluded from assessment	5	Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
	6	Completely degraded	The structure of the vegetation is no longer intact, and the area is completely or almost completely without native species. These areas are often described as ‘parkland cleared’ with the flora comprising weed or crop species with isolated native trees or shrubs.

Table 2 – Phytophthora Dieback Assessment for Vegetation Condition.

Vegetation Condition	Phytophthora Occurrence Category
Naturally vegetated areas. Keighery disturbance rating of 3 or less. Phytophthora occurrence categorisation is possible.	Infested - Determined to have plant disease symptoms consistent with the presence of <i>Phytophthora cinnamomi</i> .
	Uninfested - Determined to be free of plant disease symptoms that indicate the presence of <i>P. cinnamomi</i>
	Permanently Uninterpretable - Undisturbed areas where susceptible plants are absent, or too few to make a determination of the presence or absence of <i>P. cinnamomi</i> .
	Not yet resolved.
Vegetation structure temporarily altered.	Temporarily Uninterpretable - Areas of disturbance where natural vegetation is likely to recover.
Vegetation structure severely altered. Keighery disturbance rating 4 or greater. Phytophthora occurrence assessment is not possible	Excluded.

3.2. Assessment Method

Prior to assessment, all information relevant to the assessment was assembled to assist the interpretation process. This information included previous assessments of the area, historic sample results, history of burning and possible other disturbances. This process is referred to as the Desktop Assessment.

All Phytophthora Dieback detection, diagnosis and mapping are performed to standards and procedures defined in *FEM047 Phytophthora Dieback Interpreter's Manual for lands managed by the department* (Department of Parks and Wildlife, 2015). These procedures are grounded on the presence of indicator species in the vegetation, and the observance of deaths in these plants. An indicator species is a plant species that is reliably susceptible to *Phytophthora cinnamomi*. Indicator Species Deaths (ISDs) alone do not necessarily indicate disease presence, and it is necessary to consider all environmental and ecological factors that may be present. These other factors include:

- Chronology of deaths,
- Pattern of deaths,
- Topographical position,
- Vectoring – causal agencies, and

- Biomass and biological diversity reduction.

Other causes of plant deaths need to be considered when determining the presence of Phytophthora Dieback (Department of Parks and Wildlife, 2015), including:

- Armillaria Root Disease,
- Various cankers,
- Insects,
- Drought, wind scorch and frost,
- Salinity and waterlogging,
- Fire and lightning,
- Senescence and competition,
- Physical damage, and
- Herbicides and chemical spills.

The Phytophthora Dieback assessment process is undertaken using the following basic sequence as documented in *FEM047 Phytophthora Dieback Interpreter's Manual for lands managed by the department* (Department of Parks and Wildlife, 2015):

- Observe,
- Hypothesise,
- Undertake evidence collection,
- Form a diagnosis,
- Test the diagnoses (sample results, previous assessment, second assessment),
- Evidence is reviewed with a new hypothesis formed, if necessary,
- Final field diagnoses determined.

The assessment was conducted using the methodology of a linear assessment.

3.3. Other Phytophthora Species

Phytophthora species other than *P. cinnamomi* are identified using DNA analysis by the Centre for Phytophthora Science and Management (CPSM) at Murdoch University following the identification of the presence of a *Phytophthora* species in baiting analysis performed by Vegetation Health Service (VHS) at the Department of Biodiversity, Conservation and Attractions (DBCA).

3.4. Collection of Evidence of *Phytophthora Dieback*

During the assessment process, the collection of evidence to support the field diagnosis was recorded using a tablet running the ESRI Field Maps application. Waypoints are recorded at locations to show evidence of:

- Where field diagnosis is certain or almost certain of *Phytophthora Dieback* infestation,
- Healthy indicator species where field diagnosis is almost certain of the site being Uninfested,
- Sites with too few or devoid of indicator species, thus supporting Permanently Uninterpretable classification, or
- Areas of disturbance, which are Temporarily Uninterpretable or Excluded.

Additional waypoints recorded include:

- Points requiring soil and tissue sampling,
- Points located where samples have been taken,
- Points located at indicator species deaths, and
- Points that need to be revisited for further examination.

Evidence recorded during a comprehensive assessment is collected along a series of transect lines spaced 50 meters apart, with evidence collected no more than every 100 meters along the transect lines. Linear assessments represented by an assessment area 25 meters either side of the centre line are assessed using a minimum of a single pass on each side of the centre line. Assessment areas that exceed 25 meters either side of the centre line are either assessed using the methodology of a comprehensive assessment or additional transect lines are established parallel to the centre line at increments of 50 meters.

Waypoint evidence, sample sites and results, and field demarcations are then digitised into a *Phytophthora Dieback Occurrence Map* according to the standards defined by the *FEM047 Phytophthora Dieback Interpreter's Manual for lands managed by the department* (Department of Parks and Wildlife, 2015).

3.5. Demarcation

The *Phytophthora Dieback* occurrence categories were demarcated in the field using the appropriate flagging tape (Table 3) tied to the vegetation at an appropriate buffer width. An appropriate buffer

width is determined by Interpreters during the course of the assessment, and takes into consideration the following:

- Natural autonomous spread of the pathogen,
- Likely presence of incipient disease,
- Potential for surface water to flow into an area from an infestation,
- Current rate of spread,
- Location of natural drainage lines, such as creeks and brooks,
- Other site factors, including soil types that increase or decrease the rate of spread and degree of slope.

At a minimum, an up-slope buffer of 15 meters and a down-slope buffer width of 25 meters will be applied.

Table 3 – Demarcation Flagging Colours.

Boundary	Tape Colour and Width
Phytophthora Dieback Infested	Fluoro pink 25 mm
Permanently Uninterpretable, Temporarily Uninterpretable and Excluded (when required)	Pink and black striped ('tiger tape') 25 mm
Permanently Uninterpretable against Excluded and Temporarily Uninterpretable	Double band pink and black tiger tape
Armillaria infestation	Not usually demarcated, but if required, double flagging of pink and black tiger tape and fluoro pink 25mm.

3.6. Soil and Tissue Samples

Soil and tissue samples taken during the assessment were to standards and prescriptions defined in *FEM047 Phytophthora Dieback Interpreter's Manual for lands managed by the department* (Department of Parks and Wildlife, 2015). While species specific sampling techniques were undertaken, the general process to collect a soil and tissue sample is as follows:

- Tools and equipment are checked for the presence of soil and plant matter. Sterilisation will have occurred at the completion of the previous sample. Re-sterilise if required.
- Using the sampling tool (long or short handle mattock), dig down to expose the stem base and roots of the target plant, to a minimum depth of 30 cm.

- Remove sections of the root material and stem base from all sides of the target plant and place into a plastic sample bag.
- Collect several handfuls of soil from different depths around the base of the target plant and place into the plastic sample bag.
- Complete two metal tags with the sample tag information, including project name, sample number, company details, sample date and Interpreter initials. Place one tag into the bag.
- Complete a paper tag with the above information and secure to the sample bag.
- Mark the location of the sample with flagging tape and secure the second metal information tag to a plant within the immediate vicinity of the flag.
- Record the sample location and required information as an evidence point using ESRI Field Maps.
- Remove any material from the sampling tools and sterilise.
- Store the sample(s) in a cool location away from direct sunlight until transported to the laboratory.

All samples were analysed in the Vegetation Health Services (DBCA) laboratory using best-practice techniques.

Taking a soil and tissue sample from dead and dying plants is an integral part of assessment – although in some cases sampling is not essential. Sample results provide evidence to support field diagnostic decisions. The following table (Table 4) shows the need for sampling to assist the disease diagnosis process.

Table 4 – Determination of Requirement for Sampling (Department of Parks and Wildlife, 2015).

Observable factors indicating likelihood of <i>Phytophthora cinnamomi</i> presence				
ISD type	Multiple	Cluster	Scattered	Isolated
Species	Some or most indicator species	Any indicator plant	Any indicator plant	Any indicator plant
Pattern development	Obvious			Not obvious
Chronology	Obvious			Not obvious
Topographic situation	Gully/flat	Lower to mid slope	Mid slope to upper slope	Ridge
Causal agent	Obvious			Not obvious
Requirement for soil and tissue sample	Low	High	High	Low

Samples may also be taken for the following strategic reasons:

- Supporting Infested field diagnosis,
- Incipient, subtle or cryptic disease in apparent Uninfested sites, or
- Altering mapped Infested area boundaries.

3.7. Determining Protectable Areas

Following the determination of Phytophthora Occurrence categories, all interpretable vegetation was assessed for protectability, using the Department of Biodiversity, Conservation and Attractions (DBCA) Protectable Areas criteria.

The *FEM047 Phytophthora Dieback Interpreter's Manual for lands managed by the department* (Department of Parks and Wildlife, 2015) defines 'Protectable Areas' as those that:

- Have been determined to be free of the pathogen *Phytophthora* spp. by a registered Dieback Interpreter (all susceptible indicator plant species are healthy and no plant disease symptoms normally attributed to *Phytophthora* Dieback are evident),
- Consists of areas where human vectors are controllable (e.g., not an open road, private property), and
- Are positioned in the landscape and are of sufficient size (e.g., > 4 ha with axis >100 m) such that a qualified Interpreter judges that the pathogen will not autonomously engulf them in the short term (a period of a few decades), or
- Includes areas of high conservation and/or socio-economic value (for example, a small Uninfested area with a known population of a susceptible species of Threatened flora).

Areas deemed Unprotectable are displayed on the Phytophthora Dieback Occurrence Map (See Section 7.1) as grey hashed areas. By default, all areas not displayed as Unprotectable on the Phytophthora Dieback Occurrence Map have been categorised as Protectable.

No protectable areas were identified during the assessment.

4. Results

4.1. Desktop Assessment

Landforms and Vegetation

The Department of Biodiversity, Conservation and Attractions' Vegetation Complexes - Swan Coastal Plain (DBCA-046) dataset (Department of Biodiversity, Conservation and Attractions, 2018) documents three Vegetation Complexes within the Project Area:

Coonambidgee Complex:

Vegetation ranges from a low open forest and low woodland of *Eucalyptus tottiana* (Pricklybark) - *Banksia attenuata* (Slender Banksia) - *Banksia menziesii* (Firewood Banksia) - *Banksia ilicifolia* (Holly-leaved Banksia) with localised admixtures of *Banksia prionotes* (Acorn Banksia) to an open woodland of *Corymbia calophylla* (Marri) - *Banksia* species.

Guildford Complex:

A mixture of open forest to tall open forest of *Corymbia calophylla* (Marri) - *Eucalyptus wandoo* (Wandoo) - *Eucalyptus marginata* (Jarrah) and woodland of *Eucalyptus wandoo* (Wandoo) (with rare occurrences of *Eucalyptus lane-poolei* (Salmon White Gum)). Minor components include *Eucalyptus rudis* (Flooded Gum) - *Melaleuca rhaphiophylla* (Swamp Paperbark).

Mogumber Complex-South:

Open woodland of *Eucalyptus calophylla*, with some admixture of *Eucalyptus marginata* (Jarrah) and a second storey of *Eucalyptus tottiana* (Pricklybark) - *Banksia attenuata* - *Banksia menziesii* (Firewood Banksia) - *Banksia ilicifolia* (Holly-leaved Banksia).

A number of reliable indicator species are expected to occur within the intact vegetation within the Project Area. It is expected that the Project Area will offer moderate Phytophthora Dieback disease expression if *P. cinnamomi* were present.

Fire History

Analysis of the DBCA Fire History (DBCA-060) database (Department of Biodiversity, Conservation and Attractions, 2024) indicates that no recent fires have affected the Project Area.

Historical Assessments

Review of Glevan Consulting's database and publicly available data from the DIDMS Project Dieback Online GIS Tool shows multiple previous recoveries of *Phytophthora cinnamomi* within the Project Area (South Coast NRM Inc., n.d.). The most recent detection was in 2020, during Glevan Consulting's mapping of the Tonkin Highway Extension.

Rainfall

The long-term annual average rainfall (1905 to 2025) recorded at the nearby Serpentine Weather Station is 911.50 mm (Bureau of Meteorology, 2025), which means the Project Area is located in the 600 mm and above zone, where *Phytophthora* Dieback occurrence would not be restricted and would be expected to occur across the landscape.

4.2. *Phytophthora Dieback Distribution*

Two *Phytophthora* Dieback infestations, each covering approximately 4.71 hectares, were initially identified during the 2020 assessment (refer to Figure 3). In the current assessment, two positive samples were confirmed (see Figures 2 and 4). However, due to sparse vegetation in the affected areas, the full extent of these infestations could not be determined. Consequently, these sites have been classified as Excluded Unprotectable.

The *Phytophthora* Dieback Occurrence categories mapped during the assessment are displayed in Section 7.1; Figure 2.

4.3. *Disease Symptoms and Expression*

Evidence of disease presence along Bishop Road was apparent by the deaths of *Banksia attenuata* and *Banksia menziesii*, showing a chronological pattern. This infestation was particularly obvious, with numerous plant deaths.

The Mundijong Road, Shanley Road and Orton Road infestations was more subtle, with only occasional deaths of *Xanthorrhoea preissii* observed. The symptoms here were less apparent, with affected plants showing scattered decline in the area. This could suggest the infestation was at the endemic stage.

4.4. *Permanently Uninterpretable Areas*

2.25 hectares of Permanently Uninterpretable Unprotectable vegetation was identified along Mundijong Road due to insufficient reliable indicators, adjacent to a known infestation.

4.5. *Excluded Areas*

A total of 297.56 hectares of the Project Area was classified as Excluded Unprotectable. This classification was due to the presence of paddock vegetation and the extensive clearing of natural vegetation (Figure 2,3 and 4). These areas were deemed Unprotectable due to the existing vegetation being primarily agricultural, and the natural vegetation had been significantly cleared, reducing the possibility of effective disease management.

4.6. *Allocation of Categories*

The Phytophthora Dieback Occurrence categorised mapped during the assessment are tabulated in Table 5.

Table 5 – Results Summary of the Project Area.

Category	Area (ha)	% of total area
Infested	4.71 ha	1.55%
Permanently Uninterpretable (Unprotectable)	2.25 ha	0.74%
Excluded (Unprotectable)	297.56 ha	97.72%
TOTAL AREA	304.51 ha	

4.7. *Sample Summary*

Two soil and tissue samples were taken during the course of the assessment, both of which tested positive for *Phytophthora cinnamomi* (Table 6).

Table 6 – Soil and Tissue Sample Results.

Sample Number	Plant Sampled	Easting	Northing	Result
AL01	<i>Xanthorrhoea preissii</i>	403315	6432764	<i>P. cinnamomi</i>
AL02	<i>Xanthorrhoea preissii</i>	406023	6424862	<i>P. cinnamomi</i>

5. Discussion

The majority of the Project Area was cleared or completely degraded and void of understorey vegetation. These areas could not be assessed for the presence of *Phytophthora* Dieback and were Excluded from the assessment. Due to the presence of several water-gaining sites, it is likely that the pathogen is present at some locations within the Excluded areas. Water-gaining sites are known to pose a high risk for the spread of *Phytophthora cinnamomi* as well as public access, resulting in classifying these areas as Excluded Unprotectable.

Phytophthora cinnamomi was historically recovered in two sections, most recently in 2020 from soil and tissue samples in the area adjacent to Mundijong Road (Figure 4). Disease expression in this area was subtle, with no apparent disease front. The area contains vegetation of high soil moisture levels, making it a highly favourable site for the pathogen. Given these conditions, it is likely that the pathogen is present throughout the entire site. Additionally, the disease has likely been present for so long that it has reached an endemic state.

The vegetation to the west of Mundijong Road was classified as Permanently Uninterpretable Unprotectable due to an insufficient coverage of reliable indicator species. Although the presence of the disease could not be detected, this section is also a high moisture site, making it likely to be Infested. No indicator species deaths were recorded in this section. As a result, no soil and tissue samples collected from this area.

Two soil and tissue samples were collected during the 2025 assessment, both returning positive for *Phytophthora cinnamomi*. These positive results confirm the presence of the pathogen along Orton Road and Shanley Road, however, due to the limited vegetation it is not possible to demarcate the extent of the infestations. These sections have therefore been classified as Excluded Unprotectable (Figure 3 and 5).

There are no Protectable areas within the Project Area, therefore there are no hygiene boundaries. Vehicles and machinery should be thoroughly cleaned before arriving on site to ensure they are free of soil and plant tissue. Additionally, they should be cleaned again prior to use in any other areas that may contain Protectable vegetation. This practice helps prevent the spread of the invasive pathogen *Phytophthora cinnamomi* into vulnerable ecosystems.

6. Bibliography

- Bureau of Meteorology. (2025). *Monthly rainfall - Serpentine*. Retrieved from Bureau of Meteorology: http://www.bom.gov.au/jsp/ncc/cdio/weatherData/av?p_nccObsCode=139&p_display_type=dataFile&p_startYear=&p_c=&p_stn_num=009039
- Commonwealth of Australia. (2018). *Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomi*.
- Department of Biodiversity, Conservation and Attractions. (2018). *Vegetation Complexes - Swan Coastal Plain (DBCA-046)*. Retrieved from Data WA: <https://catalogue.data.wa.gov.au/dataset/vegetation-complexes-swan-coastal-plain>
- Department of Biodiversity, Conservation and Attractions. (2024). *DBCA Fire History (DBCA-060)*. Retrieved from DataWA: <https://catalogue.data.wa.gov.au/dataset/dbca-fire-history>
- Department of Parks and Wildlife. (2015). *FEM047 Phytophthora Dieback Interpreter's Manual for lands managed by the department*. Unpublished.
- Keighery, B. (1994). *Bushland Plant Survey: a Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc.).
- South Coast NRM Inc. (n.d.). *Project Dieback*. Retrieved from Dieback Information Delivery and Management System: <https://didms.gaiaresources.com.au/data/editor/viewdata/>

7. Appendices

7.1. *Phytophthora Dieback Occurrence Map*

The provided map is the Phytophthora Dieback occurrence map.

The assessment area is displayed as a blue boundary line. The following categories are also shown (if present in the assessment area):

- Excluded Unprotectable (shown as yellow with hatching). Areas of high disturbance where natural vegetation has been cleared and is unlikely to recover to a level that is interpretable.
- Infested (shown as red). Determined from the assessment to have the plant disease caused by *Phytophthora cinnamomi*. Phytophthora Dieback caused by other *Phytophthora* species will be displayed as other colours, typically shades of orange and yellow.
- Permanently Uninterpretable Unprotectable (shown as purple with hatching). Undisturbed areas where susceptible plants are absent, or too few to decide the presence or absence of Phytophthora Dieback.

Additional spatial data that may be shown include:

- Sample location.

7.2. *Mapping Metadata*

Dataset Description	
Title	SLR_Tonkin_Highway_Extension_2025
Data Created	13-05-2025
Date Last Updated	13-05-2025
Abstract	Phytophthora Dieback occurrence, samples, evidence, and project area Shapefiles for the Tonkin Highway Extension
Purpose	Dieback category boundary mapping
Document Number	GC-25-0014
Contact Organisation	Glevan Consulting
Contact Name	Ashleigh Lange
Contact Position	Dieback Interpreter
Contact Phone	0457 001 406
Contact Email	Ashleigh.lange@glevan.com.au
Lineage	All field data recorded using ArcGIS Field Maps on a GPS enabled device
Datum / Coordinate System	GDA2020 MGA Zone 50
Geographic Description	Shire of Serpentine and Jarrahdale
Restrictions	None

7.3. *Shapefile Spatial Data*

Shapefile Spatial Data	
File Contents	File Name
Occurrence	SLR_Tonkin_Highway_Extension_2025_Occurrence
Samples	SLR_Tonkin_Highway_Extension_2025_Samples
Evidence	SLR_Tonkin_Highway_Extension_2025_Evidence
Project Area	SLR_Tonkin_Highway_Extension_2025_ProjectArea

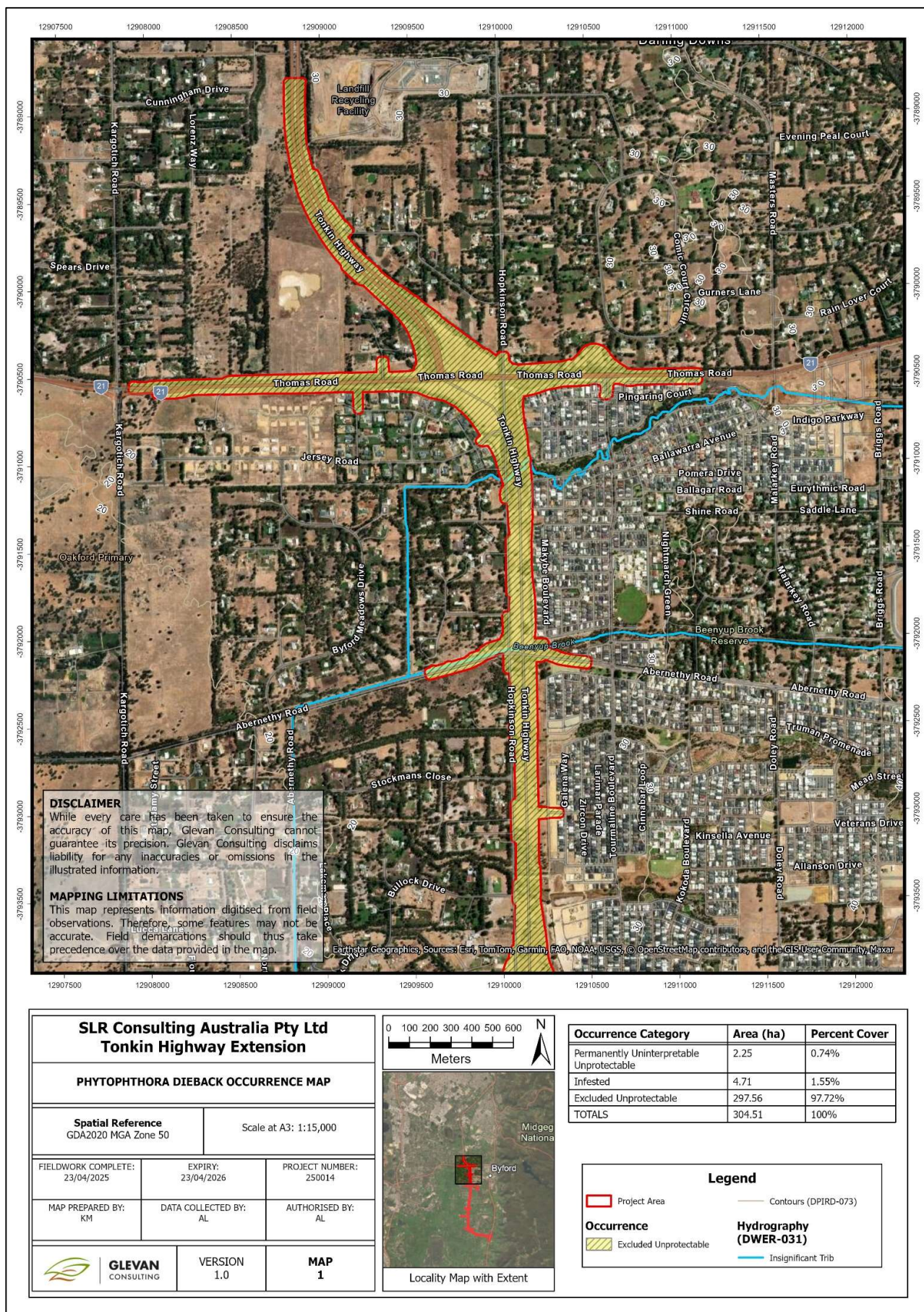


Figure 2 – Phytophthora Dieback Occurrence Map 1.

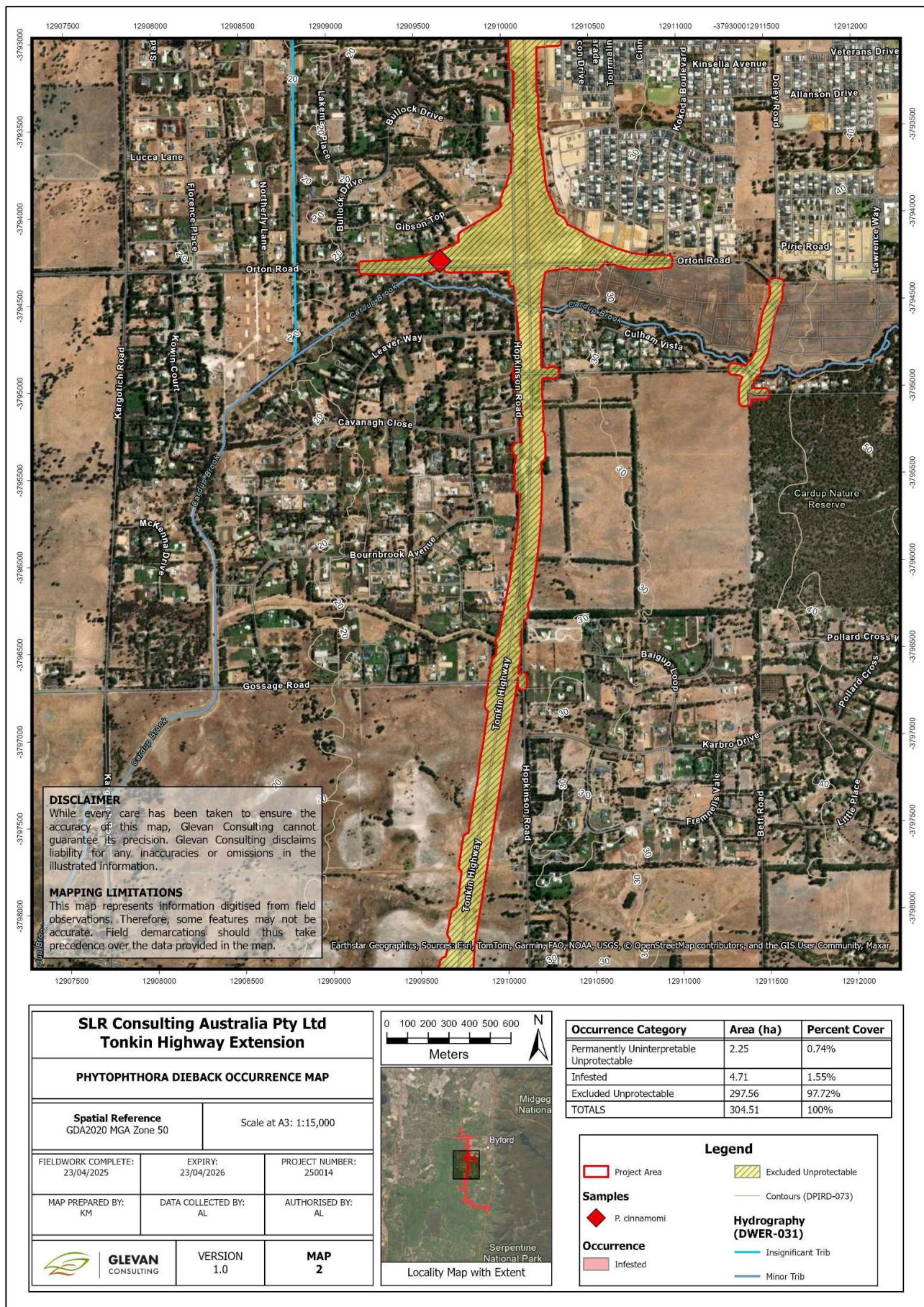


Figure 3 – Phytophthora Dieback Occurrence Map 2.

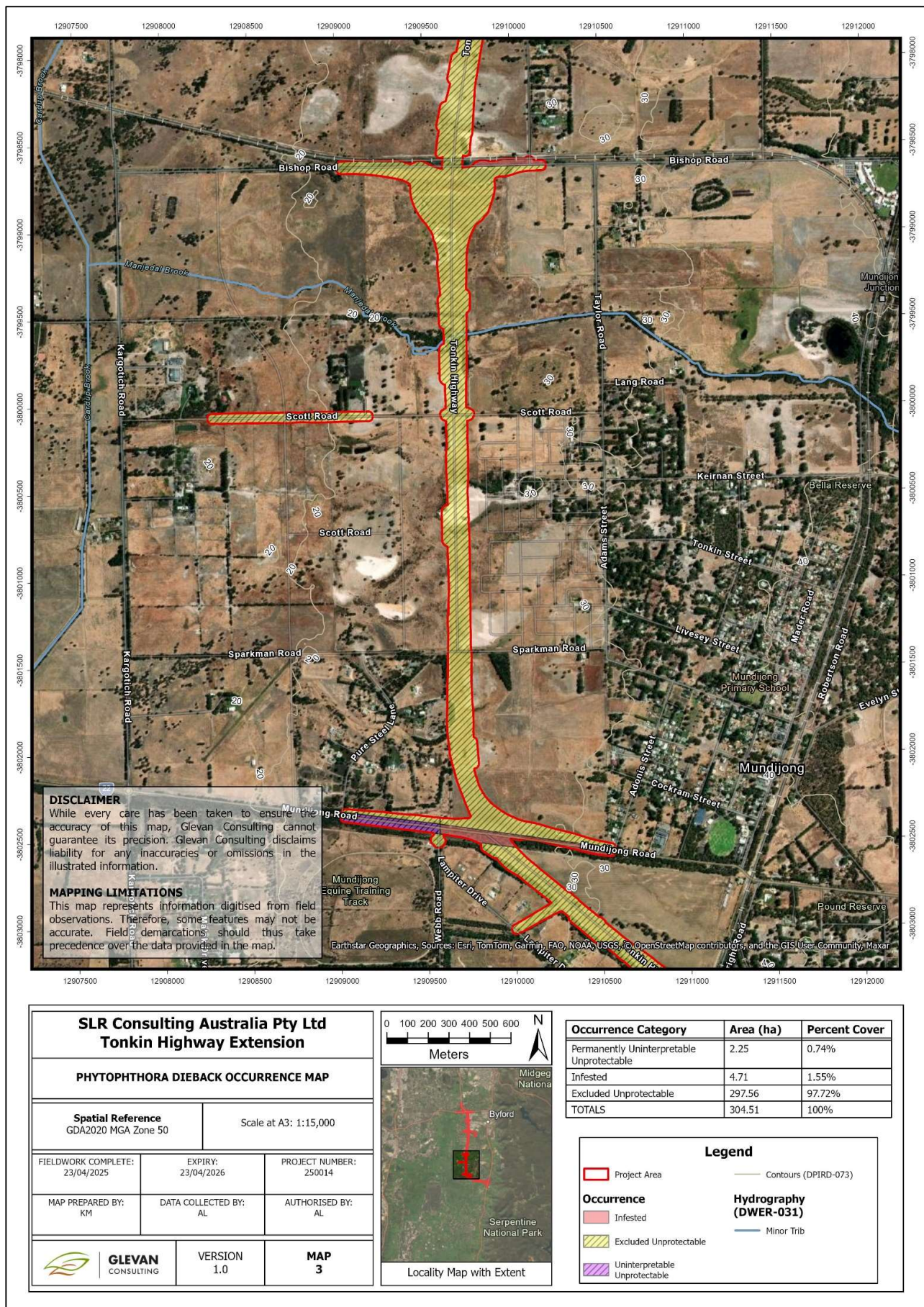


Figure 4 – Phytophthora Dieback Occurrence Map 3.

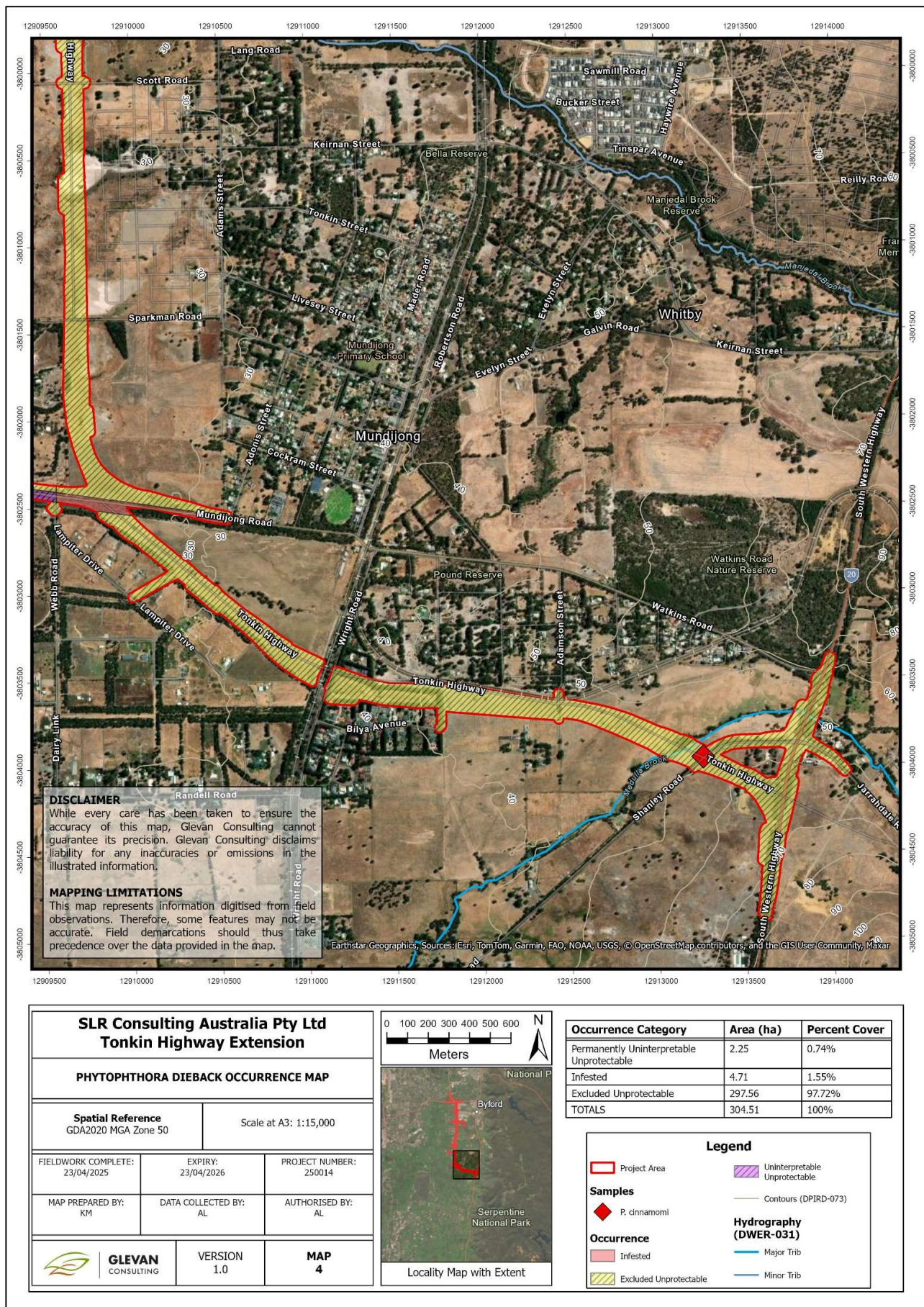


Figure 5 – Phytophthora Dieback Occurrence Map 4.



GLEVAN
CONSULTING

C3-1(1&2): TONKIN EXTENSION MS 595 CAR COMPLIANCE MONITORING REPORT C3-1(1&2) TONKIN EXTENSION MS 595 CAR COMPLIANCE MONITORING REPORT



mainroads
WESTERN AUSTRALIA

Compliance Monitoring Report

Ministerial Statement 595 Condition C3-2

**Tonkin Highway Extension from Mills Road West
Gosnells to South Western Highway Mundijong**

*We're working for
Western Australia.*

Reporting Period: 31 March 2025 to 30 March 2026

Printed copies are uncontrolled unless marked
otherwise. Refer to iRoads for current version.

D26#621308
June 2026

Contents

INTRODUCTION.....	4
1.1 Content of this Report.....	4
LIMITATIONS AND EXTENT OF PROPOSAL.....	5
1.2 Condition A1-1	5
1.2.1 Compliance monitoring for 2025/26 reporting year	5
1.2.2 Monitoring undertaken in reporting year	5
1.2.3 Appropriateness of monitoring.....	6
1.2.4 Results of monitoring	6
1.2.5 Non-compliance or exceedance.....	6
FLORA AND VEGETATION	7
1.3 Condition B1-1	7
1.3.1 Compliance monitoring for 2025/26 reporting year	7
1.3.2 Monitoring undertaken in reporting year	7
1.3.3 Appropriateness of monitoring.....	7
1.3.4 Results of monitoring	7
1.3.5 Non-compliance or exceedance.....	8
1.4 Condition B1-2	8
1.4.1 Compliance monitoring for 2025/26 reporting year	8
TERRESTRIAL FAUNA.....	9
1.5 Condition B2-1	9
1.5.1 Compliance monitoring for 2025/26 reporting year	9
1.5.2 Monitoring undertaken in reporting year	9
1.5.3 Appropriateness of monitoring.....	9
1.5.4 Results of monitoring	9
1.5.5 Non-compliance or exceedance.....	9
INLAND WATERS.....	10
1.6 Condition B3-1 (1).....	10
1.6.1 Compliance monitoring for 2025/26 reporting year	10
1.6.2 Monitoring undertaken in reporting year	10
1.6.3 Appropriateness of monitoring.....	10
1.6.4 Results of monitoring	10
1.6.5 Non-compliance or exceedance.....	10
1.7 Condition B3-1 (2).....	11

1.7.1	Monitoring undertaken in reporting year	11
1.7.2	Appropriateness of monitoring.....	11
1.7.3	Results of monitoring	12
1.7.4	Non-compliance or exceedance.....	12
SOCIAL SURROUNDINGS (NOISE AMENITY)		13
1.8	Condition B4-1	13
1.8.1	Compliance monitoring for 2025/26 reporting year	13
APPENDIX A – EXAMPLES OF CLEARING DEMARCATION		14
APPENDIX B – GROUNDWATER, SURFACE WATER AND SEDIMENT BASELINE ASSESSMENT.....		16
APPENDIX C – TONKIN EXTENSION WETLAND CONDITION TECHNICAL MEMORANDUM.....		17
APPENDIX D – RESULTS OF SURFACE WATER MONITORING		18
APPENDIX E – EXAMPLES OF VEGETATION CONDITION PHOTO MONITORING.....		19

List of Tables

Table 1: Condition A1-1, MS 595	5
Table 2: Compliance with Condition A1-1, MS 595	5
Table 3: Compliance with Condition B1-1, MS 595.....	7
Table 4: Compliance with Condition B2-1, MS 595.....	9
Table 5: Compliance with Condition B3-1, MS 595.....	10

Document Control

Report Compilation & Review	Position	Document Revision	Date
Author:	Environment Officer	Draft A	19/05/2026
Reviewer:	CRSP	Draft B	25/06/2026
Author:	Environment Officer	Draft C	25/06/2026
Approved:	Director Environment and Heritage	Rev 0	29/06/2026

INTRODUCTION

Ministerial Statement 595 (MS 595), Condition C3-2 requires Main Roads Western Australia (Main Roads) submit a compliance monitoring report as part of the annual Compliance Assessment Report that addresses the following:

- (1) Outlines the monitoring that was undertaken during the implementation of the proposal;
- (2) Identifies why the monitoring was capable of substantiating whether the proposal limitation and extents in Part A relevant to Stage Two are exceeded;
- (3) For any environmental outcomes to which condition C3-1(2) applies, identifies why the monitoring was scientifically robust and capable of detecting whether the environmental outcomes in Part B relevant to Stage Two are met;
- (4) Outlines the results of the monitoring;
- (5) Reports whether the proposal limitations and extents in Part A relevant to Stage Two were exceeded and (for any environmental outcomes to which condition C3-1(2) applies) whether the environmental outcomes in Part B relevant to Stage Two were achieved, based on analysis of the results of the monitoring; and
- (6) Reports any actions taken by the proponent to remediate any potential non-compliance.

1.1 Content of this Report

The compliance monitoring report will provide detail on monitoring relating to the following environmental values and/or environmental outcomes from MS 595:

- (1) Limitations and Extent of Proposal (Part A);
- (2) Flora and Vegetation (Condition B1-1 and B1-2 (3 – 5));
- (3) Terrestrial Fauna (Condition B2-1);
- (4) Inland Waters (Condition B3-1 (1 and 2)); and
- (5) Social Surroundings (Noise Amenity) (Condition B4-1).

Environmental offsets will not be included in this report as they have separate reporting requirements contained within the required Environmental Management Plans.

The compliance monitoring report will only provide details that are relevant to that reporting year.

LIMITATIONS AND EXTENT OF PROPOSAL

1.2 Condition A1-1

MS 595 requires that the following disturbance and clearing extents are not exceeded:

A1-1 The Proponent must ensure that the proposal is implemented in such a manner that the following maximum extents are not exceeded:

Proposal element	Maximum extent
Stage Two	From Thomas Road, Oakford to South West Highway, Mundijong
Direct disturbance of native vegetation	65.2 ha of which 32.6 ha is within Stage 2

Table 1: Condition A1-1, MS 595

1.2.1 Compliance monitoring for 2025-2026 reporting year

Proposal element	Maximum extent	Disturbance during reporting period	Cumulative disturbance
Stage Two	From Thomas Road, Oakford to South West Highway, Mundijong	-	-
Direct disturbance of native vegetation	65.2 ha of which 32.6 ha is within Stage 2	11.85 ha	11.85 ha

Table 2: Compliance with Condition A1-1, MS 595

1.2.2 Monitoring undertaken during the reporting year

To ensure compliance with the disturbance and clearing limits, Main Roads and its contractors have implemented clearing procedures in line with the Construction Environmental Management Plan and the Scope of Works and Technical Criteria. The process includes the following key steps:

- Project Engineer ensures the area to be cleared is marked (e.g. pegging or flagging) and areas of vegetation or trees nominated to be excluded from the clearing works are to be visually identifiable to all personnel involved in the works.
- A clearing walk is completed prior to clearing with Main Roads and relevant personnel from the contractor to ensure pegging/flagging is correct and in place, and to identify areas where vegetation can potentially be retained.
- The site supervisor takes part in the clearing walk and is then on-site to oversee the clearing works and ensure the permit boundary is not exceeded.

Following clearing and disturbance, a shapefile is produced that provides the ground-truthed clearing area. This is examined by the Environment Team to ensure that clearing has remained within the development envelope and the maximum extent. The shapefiles for each reporting year are provided with the Compliance Assessment Report (CAR).

A cumulative total of clearing is monitored to ensure limits are not exceeded.

1.2.3 Appropriateness of monitoring

The monitoring is deemed appropriate for determining whether the clearing and disturbance extents have been exceeded. The above steps assist in facilitating compliance during the clearing works and reduce the potential of unauthorised clearing occurring.

Site supervision during the clearing works provides oversight of the clearing as it takes place.

Following the clearing works, the capture of the actual clearing area through survey and the use of drone images allows for verification that the clearing extents were not exceeded.

A cumulative total of clearing facilitates tracking of clearing and disturbance to ensure as limits are approached, they can be managed through the permitting process to prevent exceedances.

1.2.4 Results of monitoring

Results of the monitoring for this reporting year have shown:

- All vegetation clearing took place within the maximum extent of the project (within the development envelope).
- Clearing and disturbance of native vegetation did not exceed the maximum extent of 32.6 ha.

Clearing shapefiles have been provided with the CAR. Examples of flagging for the development envelope and for clearing extents are included in Appendix A.

1.2.5 Non-compliance or exceedance

The maximum extent of disturbance in Part A of MS 595 was not exceeded during this reporting year. Main Roads is compliant with Part A of MS 595 and no remedial actions were required.

FLORA AND VEGETATION

1.3 Condition B1-1

B1-1 The proponent must ensure the implementation of the proposal achieves the following environmental outcomes:

- (1) Disturb no more than the following environmental values:
 - a. 7.5 ha of regionally significant bushland, of which:
 - i. 1.91 ha is within Stage Two.
 - b. 0.1 ha of vegetation representative of *Corymbia calophylla* – *Kingia australis* woodlands on heavy soils (floristic community type 3a as originally described in Gibson et al. 1994) within Stage Two;
 - c. 3.37 ha of vegetation representative of *Corymbia calophylla* - *Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain (floristic community type 3c as originally described in Gibson et al. 1994) within Stage Two; and
 - d. 87 individuals of *Morelotia australiensis* within Stage Two.

1.3.1 Compliance monitoring for 2025-2026 reporting year

Proposal element	Maximum extent	Disturbance during reporting period	Cumulative disturbance
Regionally significantly bushland	1.91 ha	1.38 ha	1.38 ha
<i>Corymbia calophylla</i> – <i>Kingia australis</i> woodlands on heavy soils (3a)	0.1 ha	0.007 ha	0.007 ha
<i>Corymbia calophylla</i> - <i>Xanthorrhoea preissii</i> woodlands and shrublands (3c)	3.37 ha	1.26 ha	1.26 ha
<i>Morelotia australiensis</i>	87	7	7

Table 3: Compliance with Condition B1-1, MS 595

1.3.2 Monitoring undertaken in reporting year

See Section 2.1.2 for an explanation of how these clearing extents are monitored.

1.3.3 Appropriateness of monitoring

See Section 2.1.3 for an explanation of the appropriateness of the monitoring.

1.3.4 Results of monitoring

Results of the monitoring for this reporting year have shown:

- Clearing and disturbance of the environmental values did not exceed the maximum extent.

Clearing shapefiles are provided with the annual CAR's. Examples of flagging for the development envelope and for clearing extents are included in Appendix A.

1.3.5 Non-compliance or exceedance

The maximum extent of disturbance for Condition B1-1 was not exceeded during this reporting year. Main Roads is compliant with Condition B1-1 and no remedial actions were required.

1.4 Condition B1-2

The proponent must:

- (3) revegetate all areas of native vegetation disturbed, but not reasonably expected to be required for ongoing operations, within the Stage Two development envelope within twenty-four (24) months of completion of construction activities;
- (4) ensure the revegetation required by condition B1-2(3) is consistent with pre-construction vegetation density;
- (5) undertake annual monitoring consistent with condition C3-1 and implement any contingency measures to ensure revegetation required by condition B1-2(3) will achieve the pre-construction vegetation density within five (5) years post construction; and
- (6) continue to undertake the monitoring required by condition B1-2(5) until the CEO confirms by notice in writing that it has been demonstrated that the revegetation required by condition B1-2(3) has successfully established.

1.4.1 Compliance monitoring for 2025-2026 reporting year

This condition was not applicable in this reporting year.

TERRESTRIAL FAUNA

1.5 Condition B2-1

The proponent must ensure the implementation of the proposal achieves the following environmental outcome:

- (1) disturb no more than the following environmental values:
 - a. 42.92 ha of foraging habitat for black cockatoos of which:
 - i. 34.95 ha is within Stage Two;
 - b. 317 potential nesting trees within Stage Two; and
 - c. 2 potential nesting trees with suitable hollows within Stage Two.

1.5.1 Compliance monitoring for 2025-2026 reporting year

Proposal element	Maximum extent	Disturbance during reporting period	Cumulative disturbance
Foraging habitat for black cockatoos	34.95 ha	17.84 ha	17.84 ha
Potential nesting trees	317	186	186
Potential nesting trees with suitable hollows	2	0	0

Table 4: Compliance with Condition B2-1, MS 595

1.5.2 Monitoring undertaken in reporting year

See Section 2.1.2 for an explanation of how these clearing extents are monitored.

1.5.3 Appropriateness of monitoring

See Section 2.1.3 for an explanation of the appropriateness of the monitoring.

1.5.4 Results of monitoring

Results of the monitoring for this reporting year have shown:

- Clearing and disturbance of the environmental values did not exceed the maximum extent.

Clearing shapefiles have been provided with the CAR. Examples of flagging for the development envelope and for clearing extents are included in Appendix A.

1.5.5 Non-compliance or exceedance

The maximum extents of disturbance for Condition B2-1 was not exceeded during this reporting year. Main Roads is compliant with Condition B2-1 and no remedial actions were required.

INLAND WATERS

1.6 Condition B3-1 (1)

The proponent must ensure the implementation of the proposal achieves the following environmental outcomes:

- (1) disturb no more than the following environmental values:
 - a. 10.19 ha of Conservation Category Wetlands, of which:
 - i. 2.83 ha is within Stage Two; and
 - b. 29.00 ha of Resource Enhancement Wetlands, of which:
 - i. 0.23 ha is within Stage Two;

1.6.1 Compliance monitoring for 2025-2026 reporting year

Proposal element	Maximum extent	Disturbance during reporting period	Cumulative disturbance
Conservation Category Wetlands	2.83 ha	1.59 ha	1.59 ha
Resource Enhancement Wetlands	0.23 ha	0.21 ha	0.21 ha

Table 5: Compliance with Condition B3-1, MS 595

1.6.2 Monitoring undertaken in reporting year

See Section 2.1.2 for an explanation of how these clearing extents are monitored.

1.6.3 Appropriateness of monitoring

See Section 2.1.3 for an explanation of the appropriateness of the monitoring.

1.6.4 Results of monitoring

Results of the monitoring for this reporting year have shown:

- Clearing and disturbance of the environmental values did not exceed the maximum extent.

Clearing shapefiles have been provided with the CAR. Examples of flagging for the development envelope and for clearing extents are included in Appendix A.

1.6.5 Non-compliance or exceedance

The maximum extents of disturbance for Condition B2-1 was not exceeded during this reporting year. Main Roads is compliant with Condition B2-1 and no remedial actions were required.

1.7 Condition B3-1 (2)

The proponent must ensure the implementation of the proposal achieves the following environmental outcomes:

- (2) ensure, that following construction, the water quality and hydrological regimes of wetlands and/or watercourses within or adjacent to Stage Two reflect preconstruction conditions.

1.7.1 Monitoring undertaken in reporting year

Monitoring was undertaken from 3 – 7 July 2025 to complete an ambient groundwater, surface water and sediment baseline assessment for the project (see baseline report in Appendix B). The program included the sampling of groundwater from 11 groundwater monitoring wells, surface water sampling at 14 locations, including upstream and downstream locations from seven watercourses that cross the project alignment, and sediment sampling from the downstream surface water sample locations.

This monitoring was completed to provide a comprehensive understanding of baseline groundwater in the shallow superficial aquifer, surface water and sediment conditions at the site, and to understand the nature, extent and magnitude of potential contamination, if any.

Determining the baseline parameters will provide the criteria for assessment at completion of the project to determine whether water quality and hydrological regimes reflect pre-construction conditions.

Groundwater monitoring has continued since the baseline monitoring event as directed by the Groundwater Licencing Operating Strategy (GLOS). Field monitoring of surface water is carried out when there is surface water available to sample.

An assessment of wetland condition was also undertaken during the reporting year, on 6 August 2025 (see baseline report in Appendix C). Five conservation category wetlands were assessed, three within the project alignment and two that are adjacent to the development envelope. Wetland condition was assessed using the Keighery (1994) vegetation condition scale. Two photographs were taken of the wetlands - one within or adjacent to the project area and one outside the project area.

Results of the assessment found condition of the wetlands ranged from Degraded to Excellent.

Vegetation condition monitoring has continued since the commencement of construction on a monthly basis.

1.7.2 Appropriateness of monitoring

The baseline monitoring for water quality and vegetation condition is considered appropriate for complying with condition B3-1(2) for the following reasons:

- It was conducted by consultants that are Suitably Qualified Persons in their profession.
- It provides a baseline assessment prior to the start of construction (and vegetation clearing).
- It is repeatable over time.
- It uses recognised methods of assessment - standard field measurements, standardised lab tests, and a recognised method of assessing vegetation condition (Keighery).

The Surface and Groundwater Monitoring Plan describes the methodology that is used to repeat the monitoring throughout the construction period and contains quality assurance and quality control methods to be used during the surface water sampling program. It contains the adopted assessment criteria and also management and contingency processes where vegetation condition is assessed as declining, or where water quality exceeds the assessment criteria.

1.7.3 Results of monitoring

Field monitoring of surface water quality showed that all parameters were within the expected limits. See Appendix D for results of the surface water monitoring.

Photographic monitoring of vegetation condition did not identify a decline in condition during the reporting period. See Appendix E for the photo monitoring.

1.7.4 Non-compliance or exceedance

There were no non-compliances or exceedances for this condition in the reporting year.

SOCIAL SURROUNDINGS (NOISE AMENITY)

1.8 Condition B4-1

The proponent must ensure the implementation of the proposal following construction does not exceed the noise targets specified in Table 2 of *State Planning Policy 5.4 Road and Rail Noise*.

1.8.1 Compliance monitoring for 2025-2026 reporting year

This condition was not applicable in this reporting year.

APPENDIX A – EXAMPLES OF CLEARING DEMARCATION



Photo 1. Project boundary flagged with yellow tape, clearing boundary flagged with pink tape.



Photo 2. Trees to be cleared are marked with pink tape.



Photo 3. Trees to be retained marked with white tape.



Photo 4. Trees that are to be retained during this clearing phase but may be subject to clearing following design changes are marked with yellow tape.

APPENDIX B – GROUNDWATER, SURFACE WATER AND SEDIMENT BASELINE ASSESSMENT



WESTERN
ENVIRONMENTAL

Tonkin Highway Extension

Groundwater, Surface Water and Sediment
Baseline Assessment

Western Environmental Pty Ltd

(08) 6162 8980

PO Box 437, Leederville, WA 6903

enquiries@westenv.com.au

westenv.com.au



Tonkin Highway Extension

Groundwater, Surface Water and Sediment Baseline Assessment

Report No:

P25.045-RPT-GWR_0_FINAL

Issue Date:

11-Sep-2025

Status

FINAL

Prepared for:

Tonkin Extension Alliance
68 Hasler Road
Osborne Park WA 6017

Prepared by

Western Environmental Pty Ltd
Unit 5, 162 Colin Street
West Perth WA 6005
westenv.com.au

Internal Review

Author	Reviewed by	Approved by
		
Tiane McQuire Environmental Scientist	Philip Brand Principal Scientist	Philip Brand Principal Scientist
8-Sep-2025	9-Sep-2025	11-Sep-2025

Distribution Record

Copies	Document ID / Version	Date	Received by
1 (E)	P25.045-RPT-GWR_0 / FINAL	11-Sep-2025	TEA (Michelle Rhodes)

Statement of Limitations

Copyright Statement

© Western Environmental Pty Ltd (WEPL). All rights reserved. No part of this work may be produced in any material form or communicated by any means without the permission of the copyright owner. The unauthorised copying or reproduction of this report or any of its contents is prohibited.

Scope of Services

This environmental report ("this report") has been prepared for the sole benefit and exclusive use of the Client for the purpose for which it was prepared in accordance with the agreement between the Client and WEPL ("the Agreement"). However, in addressing the requirements of the Contaminated Sites Act 2003, an Accredited Contaminated Sites Auditor may be engaged by the Client to undertake review of this report, prior to its submission to the DWER. The report shall be made available and can be relied upon for the purposes of the Contaminated Sites Act.

WEPL disclaims any and all liability with respect to any use of or reliance upon this report for any other purpose whatsoever.

In particular, it should be noted that this report is based on a scope of services defined by the Client, and is limited by budgetary and time constraints, the information supplied by the Client (and its agents) and, in some circumstances, access and/or site disturbance constraints.

The scope of services did not include any assessment of the title to or ownership of the properties, buildings and structures referred to in this report, or the application or interpretation of laws in the jurisdiction in which those properties, buildings and structures are located.

Reliance on Data

In preparing this report, WEPL has relied on data, surveys, analyses, designs, plans and other information provided by the Client (or its agents), other individuals and organisations ("the data").

Except as otherwise stated in this report, WEPL has not verified the accuracy or completeness of the data. WEPL does not represent or warrant that the data is true or accurate, and disclaims any and all responsibility or liability with respect to the use of the data.

To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in this report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data.

WEPL does not accept any responsibility or liability for any incorrect or inaccurate conclusions should any data be incorrect, inaccurate or incomplete or have been concealed, withheld, misrepresented or otherwise not fully disclosed to WEPL.

The conclusions must also be considered in light of the agreed scope of services (including any constraints or limitation therein) and the methods used to carry out those services, both of which are as stated or referred to in this report.

Environmental Conclusions

In accordance with the scope of services, WEPL has conducted environmental field monitoring and/or testing in the preparation of this report. The nature and extent of monitoring and/or testing conducted is described in this report.

On all sites, varying degrees of non-uniformity of vertical and horizontal conditions in media (soil, water, air, waste or other media as described in the report) are encountered. Hence no monitoring, common testing or sampling technique can eliminate the possibility that monitoring or testing results/samples are not totally representative of media conditions encountered. The conclusions are based on the data and the environmental field monitoring and/or testing actually undertaken, and are therefore merely indicative of the environmental condition of the site at the time of preparing this report, including the presence or otherwise of contaminants or emissions. It should be recognised that site conditions, including the extent and concentration of contaminants, can change.

Within the limitations imposed by the scope of services, the monitoring, testing, sampling and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. To the maximum extent permitted by law, no other warranty, express or implied, is made.

Report for Benefit of Client

This report is confidential. Neither the whole nor any part of this report, or any copy or extract thereof, may be disclosed or otherwise made available to any third party without the prior written approval of WEPL.

WEPL accepts no liability or responsibility whatsoever in respect of any use of or reliance upon this report, by any person or organisation who is not a party to the Agreement. Reliance on this report by any person who is not a party to the Agreement is expressly prohibited. Any representation in this report is made only to the parties to the Agreement.

WEPL assumes no responsibility and disclaims any and all liability to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in this report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in this report (including without limitation matters arising from any negligent act or omission of WEPL or for any loss or damage suffered by any other party using or relying on the matters dealt with or conclusions expressed in this report, even if WEPL has been advised of the possibility of such use or reliance).

Other parties should not rely on this report or the accuracy or completeness of any conclusions contained in this report, and should make their own enquiries and obtain independent advice in relation to such matters.

If an Auditor is engaged by the Client to undertake review of this report, it shall be made available subject to the terms and conditions of the agreement between the Client and WEPL and the caveats in this statement.

Other Limitations

This report is intended to be read in its entirety, and sections or parts of this report should therefore not be read and relied on out of context.

WEPL will not be liable to update or revise this report to take into account any events or circumstances or facts becoming apparent after the date of this report.

Executive Summary

Western Environmental Pty Ltd (WEPL) was commissioned by the Tonkin Extension Alliance (the Client) to complete an ambient groundwater, surface water and sediment baseline assessment for the Tonkin Highway Extension (THE) Project prior to the commencement of construction. The THE Project area is located approximately 30 km south-southeast of the Perth Central Business District (CBD) within the Shire of Serpentine Jarrahdale (the Site, Figure 1). The Site is approximately 15.5 km in length from the northern to southern extent and covers an area of approximately 260 hectares (ha). The Site is currently zoned as 'Primary Regional Roads' and 'Other Regional Roads'.

The THE Project is comprised of the following proposed features:

- A 14 kilometre (km) extension of Tonkin Highway from Thomas Road to South Western Highway as a four-lane dual carriageway.
- Principal Shared Path (PSP) on the eastern side of the Site for the full 14 km length.
- Widen and duplicate 4.5 km of Thomas Road between Kargotich Road and South Western Highway.
- Construction of new traffic bridges at Thomas Road, Abernathy Road, Bishop Road, Wright Road and Shanley Road.
- Construction of new at grade intersections at Orton Road, Mundijong Road, South Western Highway and Shanley/Jarrahdale Roads.
- New grade separated PSP including Orton Road pedestrian bridge, 7 pedestrian underpasses and an equine underpass.
- Construction of new noise walls, drainage, lighting, and intelligent transport systems (ITS).

The ground surface within the Site will be raised for road construction purposes. Approximately 450,000 m³ of spoil from the Forrestfield-Airport Link (FAL) project (referred to as FAL spoil) is proposed for reuse within the northern 11 km of the Site.

WEPL engaged in a three-day groundwater, surface water and sediment sampling program that took place between 3 and 7 July 2025. The program included the sampling of groundwater from 11 groundwater monitoring wells, surface water sampling at 14 locations including upstream and downstream locations from seven (7) water courses that cross the THE Project alignment), and sediment sampling from the downstream surface water sample locations.

Eleven (11) groundwater, 14 surface water, seven (7) sediment and corresponding quality assurance and quality control (QA/QC) samples were analysed at a NATA accredited laboratory. Water samples were subject to laboratory analysis for a selection of chemicals including Per- and polyfluoroalkyl substances (PFAS),

metals, benzene, toluene, ethylbenzene and xylenes (BTEX), total recoverable hydrocarbons (TRH), semi-volatile and volatile organic compounds (SVOC/VOCs), major anions and cations, nutrients, acidity and physicochemical parameters including pH, electrical conductivity (EC) and total dissolved solids (TDS). Sediment samples were subject to laboratory analysis for a selection of chemicals including PFAS, metals, BTEX, TRH, major anions and cations, nutrients, and Acid Sulfate Soil (ASS) analyses including pH_{FIELD} and pH_{FOX} testing and acid base accounting using the Chromium Reducible Sulfur (Scr) suite).

Reported analytical data for all samples was compliant with the adopted ecological and human health assessment criteria excluding the following results:

- Some groundwater locations reported concentrations above adopted ecological assessment criteria for aluminium, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, ammonia (as N) and nitrate (as N).
- Some groundwater locations reported concentrations above adopted human health assessment criteria for aluminium, iron, chloride and ammonia (as N).
- Two groundwater locations reported concentrations of PFOS above the PFAS NEMP (2025) Freshwater 99% species protection criterion.
- Some groundwater locations reported concentrations above adopted ecological assessment criteria for aluminium, arsenic, cadmium, chromium, copper, lead, zinc and nitrate (as N).
- Five surface water locations reported concentrations of PFOS the PFAS NEMP (2025) Freshwater 99% species protection criterion.
- Some sediment locations reported concentrations above adopted ecological criteria for nickel, C6-C36 Fraction, F2 (>C10-C16 minus naphthalene) and F3 (C16-C34 Fraction).
- One sediment location reported a concentration of PFOS above the PFAS NEMP (2025) Interim ecological indirect exposure criterion for all land uses.
- One sediment location reported a Net Acidity concentration that was a minor exceedance of the adopted ASS (DER, 2025) criterion.

Table of Contents

1.	Introduction	1
1.1	Project Background	1
1.2	Objectives	2
1.3	Scope of Work	2
2.	Site Identification and General Information	4
2.1	Site Identification and Zoning	4
3.	Previous Investigations.....	5
3.1	Preliminary Site Investigation	5
3.2	FAL Spoil Summary	7
4.	Sampling and Analysis Quality Program	8
4.1	Data Quality Objectives	8
4.2	Guidance Documents	10
4.3	Groundwater Sampling Locations and Methodology	10
4.4	Surface Water Sampling Locations and Methodology.....	11
4.5	Sediment Sampling Methodology	12
4.6	Assessment Criteria	12
4.7	Quality Assurance and Quality Control (QA/QC)	14
4.7.1	Field QA/QC.....	14
4.7.2	Laboratory QA/QC.....	15
5.	Investigation Results	17
5.1	Groundwater	17
5.1.1	Field Observations	17

5.1.2	Laboratory Analytical Results	18
5.2	Surface Water	20
5.2.1	Field Observations	20
5.2.2	Laboratory Analytical Results	21
5.3	Sediment.....	22
5.3.1	Field Observations	22
5.3.2	Laboratory Analytical Results	23
6.	QA/QC Evaluation	25
6.1	Laboratory QA/QC Data	25
6.1.1	Analysis Holding Times	28
6.1.2	Laboratory Limits of Reporting.....	28
6.2	Field QA/QC Data	29
6.2.1	Field Duplicates and Triplicates	29
6.2.2	Field, Transport and Rinsate Blanks	31
6.3	QA/QC Summary	31
7.	Conclusions	32
8.	References	33

Tables (in text)

Table A: Site Identification	4
Table B: Data Quality Objectives, Process and Requirements - Groundwater, Surface Water and Sediment ..	8
Table C: Adopted Assessment Criteria	13
Table D: Summary of QA/QC	15
Table E: Groundwater Field Observations and Measurements	17
Table F: Surface Water Field Observations and Measurements	20
Table G: Summary of QA/QC Procedures.....	25
Table H: Summary of QA/QC Laboratory Surrogate Spike Recovery Non-Compliances.....	26
Table I: Summary of QA/QC Laboratory Matrix Spike Recovery Non-Compliances	27

Figures

Figure 1	Site Location
Figure 2	Surface Water Features and Geomorphic Wetlands
Figure 3	Groundwater Sample Locations
Figure 4	Surface Water Sample Locations

Tables (post text)

Table 1	Groundwater Field Water Quality Parameters
Table 2	Surface Water Field Water Quality Parameters
Table 3A	Primary Groundwater Results (Metals/ Inorganics)
Table 3B	Primary Groundwater Results (VOCs/BTEX/TRH/TPH)
Table 3C	Primary Groundwater Results (PFAS)
Table 4A	Primary Surface Water Results (Metals/ Inorganics)
Table 4B	Primary Surface Water Results (VOCs/BTEX/TRH/TPH)
Table 4C	Primary Surface Water Results (PFAS)
Table 5A	Primary Sediment Results (Metals/ Inorganics)
Table 5B	Primary Sediment Results (BTEX/TRH/TPH)
Table 5C	Primary Sediment Results (PFAS)
Table 5D	Primary Sediment Results (Acid Sulfate Soils)
Table 6	QA/QC Results (Groundwater RPD)
Table 7	QA/QC Table (Surface Water RPD)
Table 8	QA/QC Results (Rinsate, Field Blanks)

Appendices

Appendix A	Photograph Log
Appendix B	Laboratory Documentation

1. Introduction

1.1 Project Background

Western Environmental Pty Ltd (WEPL) was commissioned by the Tonkin Extension Alliance (the Client) to complete an ambient groundwater, surface water and sediment baseline assessment for the Tonkin Highway Extension (THE) Project prior to the commencement of construction. The THE Project area is located approximately 30 km south-southeast of the Perth Central Business District (CBD) within the Shire of Serpentine Jarrahdale (the Site). The Site location is outlined in Figure 1. The Site is approximately 15.5 km in length from the northern to southern extent and covers an area of approximately 260 hectares (ha). The Site is currently zoned as 'Primary Regional Roads' and 'Other Regional Roads'.

The THE Project is comprised of the following proposed features:

- A 14 kilometre (km) extension of Tonkin Highway from Thomas Road to South Western Highway as a four-lane dual carriageway.
- Principal Shared Path (PSP) on the eastern side of the Site for the full 14 km length.
- Widen and duplicate 4.5 km of Thomas Road between Kargotich Road and South Western Highway.
- Construction of new traffic bridges at Thomas Road, Abernathy Road, Bishop Road, Wright Road and Shanley Road.
- Construction of new at grade intersections at Orton Road, Mundijong Road, South Western Highway and Shanley/Jarrahdale Roads.
- New grade separated PSP including Orton Road pedestrian bridge, 7 pedestrian underpasses and an equine underpass.
- Construction of new noise walls, drainage, lighting, and intelligent transport systems (ITS).

The ground surface within the Site will be raised for road construction purposes including the construction of the highway, PSPs, traffic bridges and traffic intersections. Approximately 450,000 m³ of spoil from the Forrestfield-Airport Link (FAL) project (referred to as FAL spoil) is proposed for reuse within the northern 11 km of the Site. Proposed FAL spoil reuse locations are outlined in Figure 2a to Figure 2d.

This ambient groundwater, surface water and sediment baseline assessment has been undertaken in general accordance with the requirements of the Assessment and Management of Contaminated Sites guideline (DWER, 2021), National Environment Protection Council National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM) (NEPC, 2013) and PFAS National Environmental Management Plan (NEMP) 3.0 (HEPA, 2025).

1.2 Objectives

The objective of the ambient groundwater, surface water and sediment baseline assessment is to assess the ambient baseline quality of groundwater, surface water and sediment across the Site prior to commencement of construction. More specifically the objectives are as follows:

- Completion of groundwater, surface water and sediment sampling to provide a comprehensive understanding of baseline groundwater in the shallow superficial aquifer, surface water and sediment conditions at the Site including but not limited to proposed FAL spoil re-use areas, and to understand the nature, extent and magnitude of potential contamination, if any.
- Identify whether any contaminant levels detected within groundwater, surface water and sediment on-site or within immediate proximity to the Site exceed the nominated assessment criteria in the context of the proposed land use (i.e. areas of ecological significance, public open space [POS], road reserve [commercial], residential [urban and rural]).

1.3 Scope of Work

The scope of work completed for this assessment comprised of the following:

- Identify potential sources of contamination and associated contaminants of concern that require investigation.
- Collection of baseline groundwater samples from 11 existing monitoring wells across the Site (Figure 3a to Figure 3d) including within proximity to proposed FAL spoil re-use areas within the Site, Conservation and Resource Enhancement category wetlands within and surrounding the Site, and other potentially contaminating sites adjacent to the Site including City of Armadale Landfill and Recycling Facility (145 Hopkinson Rd, Hilbert) and retail service stations at 2 Jarrahdale Rd, Jarrahdale and 8 Kardan Blvd, Byford. Samples were collected between 3 and 7 July 2025.
- Collection of baseline surface water samples from seven (7) water courses (drains, creeks and/or brooks) that intersect the Site (Figure 4a to Figure 4d) including Oaklands Drain, Beenyup Brook Drain, two unnamed tributaries/drains, Cardup Brook, Manjedal Brook and Medulla Brook). Samples were collected from upstream and downstream of the Site on 3 July 2025.
- Collection of baseline sediment samples from each of the seven (7) downstream surface water sample locations (7 samples collected) (Figure 4a to Figure 4d). Samples were collected from upstream and downstream of the Site on 3 July 2025.
- Analysis of 25 primary water samples for a selection of contaminants including Per- and polyfluoroalkyl substances (PFAS), metals (dissolved aluminium [Al], arsenic [As], barium [Ba], beryllium [Be], boron [B], cadmium [Cd], chromium [Cr] [non-speciated], cobalt [Co], copper [Cu], iron [Fe], lead [Pb], mercury [Hg], nickel [Ni], selenium [Se], vanadium [V] and zinc [Zn], and total Al and Fe), benzene, toluene, ethylbenzene and xylenes (BTEX), total recoverable hydrocarbons

(TRH), semi-volatile and volatile organic compounds (SVOC/VOCs), major anions and cations, nutrients, acidity and physicochemical parameters including pH, electrical conductivity (EC) and total dissolved solids (TDS).

- Analysis of seven (7) sediment samples for a selection of chemicals including PFAS, metals, BTEX, TRH, major anions and cations, nutrients, and Acid Sulfate Soil (ASS) analyses including pH_{FIELD} and pH_{FOX} testing and acid base accounting using the Chromium Reducible Sulfur (Scr) suite).
- Collection of appropriate quality control/quality assurance (QA/QC) samples, including field duplicates and triplicates, rinsate blanks, and combined field and transport blanks.
- Compilation and presentation of the above works in a factual report (this report).

2. Site Identification and General Information

2.1 Site Identification and Zoning

The Site comprises of a 14 kilometre (km) extension of Tonkin Highway from Thomas Road to South Western Highway. The Site is located approximately 30 km south of the Perth Central Business District (CBD) and covers an area of approximately 435 hectares (ha) (Senversa, 2021). The Site is in the Shire of Serpentine Jarrahdale.

The Site is located on pre-existing regional roadways (that are to be widened with the development of the project), vacant land, public open space and farmland (Senversa, 2021). The Site is comprised of crown land, existing road reserves and private land (Senversa, 2021). General Site identification details are summarised in Table A and the location of the Site is presented in Figure 1.

Based on the Local Planning Scheme - Zones and Reserves (DPLH-071) and Region Scheme - Zones and Reserves (DPLH-023) datasets (DPLH, 2025a and 2025b) the Site is primarily zoned as 'Primary Regional Roads' and 'Other Regional Roads'. The southern end of the Site is in areas zoned as 'Public Open Space' (POS), 'Urban Development', 'Rural', and 'Farmlet'.

Table A: Site Identification

Identifier	Details
Total Area	Approximately 260 ha
Current Land Use	Regional roadways, vacant public open space, farmland
Historical Land Use	Regional roadways, vacant public open space, farmland
Proposed Future Land Use	Primary Regional Road
Local Government Authority	Shire of Serpentine-Jarrahdale
Site Coordinates GDA2020/Zone 50	See Figure 1 for site coordinates

3. Previous Investigations

3.1 Preliminary Site Investigation

A Preliminary Site Investigation (PSI) of the Site was completed for Main Roads Western Australia (MRWA) in 2021 (Senversa, 2021). The purpose of this PSI was to provide a preliminary assessment of the contamination and acid sulfate soil (ASS) status for the proposed highway extension works. The PSI made the following findings and conclusions (Senversa, 2021):

- The northern ~1.7 km of the Site is used as a primary road (Tonkin Highway) and the balance of the Site consists of vacant land, regional road reserves, public open space and farmland.
- The followings areas of potential contamination risk for the Project were identified by the desktop assessment:
 - o The City of Armadale Landfill and Recycling Facility (145 Hopkinson Rd, Hilbert WA 6112) is located adjacent to the east of the Site's northern most boundary. Potential groundwater quality impact is considered to present a much greater risk to the Project compared to potential soil quality impacts in this area of the Site as a result of off-site landfill operations.
 - o A retail service station at the corner of South Western Highway and Jarrahdale Road (2 Jarrahdale Rd, Jarrahdale) is located within the southern most section of the Site. Hydrocarbons are present in groundwater beneath the forecourt and the plume extends west/northwest beneath the South Western Highway road reserve and the Site. There are some impacted soils at the Site; however, hydrocarbon impacted groundwater is considered to present a much greater risk for the Project in this location as surrounding and off-site soils are not expected to have been impacted.
 - o Current and historical agricultural activities at and surrounding the Site are likely to have included the storage and use of chemical for agricultural purposes and may have impacted soil, groundwater and surface water.
 - o There is the potential to encounter asbestos sheeting associated with aged structures or fencing within the Site.
 - o There is the potential to encounter commercial and/or domestic waste material that has been knowingly or illegally dumped within the Site including private properties and road reserves within the Site.
 - o A retail service station located at 8 Kardan Blvd, Byford and immediately south of Thomas Road in the northeastern portion of the Site has registered hydrocarbon storage infrastructure that has the potential to leak and impact the Site.

-
- o No other registered or potentially contaminated sites were identified within 500 m of the Site that may have impacted soil, groundwater or surface water quality at the Site.
 - The Site history review, background information assessment and Site inspection did not identify historical activities in or around the Site that could have resulted in contamination with the potential to represent material impediment to construction.
 - The Site has a low risk of ASS impacts as any potential ASS is located likely beyond 3 metres below the surface of the ground except in the lower lying areas south of Gossage Road.
 - The Site primarily traverses through private rural residential properties that are fenced and are on pre-existing roads.
 - The Site inspection did not identify any asbestos containing material (ACM) that may pose a risk to development; however, ACM may be encountered in the form of bonded cement sheeting during construction activities.
 - Limited soil and surface water sampling undertaken at nine and six locations (Beenyup Brook Drain, the Cardup Brook, the Manjedal Brook, a shallow open drain along Hopkinson Road, and the Medulla Brook [two sample locations]) within the Site, respectively, reported the following results and did not identify any potential impacts that represent an unacceptable risk to human health, the environment or environmental value:
 - o BTEX, TRH and OC/OP pesticides were not reported in soil or surface water at concentrations above the laboratory Limit of Reporting (LOR).
 - o Detections of PFAS in soil were reported above LORs at one location in the southeastern portion of the Site.
 - o Heavy metals were identified in soil samples above the LOR with copper and nickel concentrations present in two samples that marginally exceeded the adopted Ecological Investigation Level (EIL) for Urban Residential and Public Open Space.
 - o Total oxidised nitrogen, total nitrogen and phosphorus, chromium, copper and zinc were identified at concentrations that exceeded the adopted 95% freshwater guidelines; these contaminants were attributed to agricultural and residential land use activities at and in proximity of the Site rather than from a point source of contamination.
 - o PFOS concentrations within surface water across the Site exceeded the adopted ecological guidelines; however, the results reported were considered to be consistent with ambient conditions for a semi-rural area.
-

3.2 FAL Spoil Summary

The FAL project involved the construction of rail line and rail stations between High Wycombe and Bayswater as part of the State Government's broader Metronet project. Spoil material was generated by FAL project activities including but not limited to convention bulk excavation activities at rail stations and rail dive structures, and tunnel boring activities. FAL project spoil was stored in stockpiles at 777 Abernethy Road, Forrestfield, also known as Site C, where it was separated according to their geological unit and origin (Aurora, 2022).

Samples of spoil were progressively collected and subject to laboratory analysis as material was progressively received at Site C for storage purposes. Soil samples were analysed for potential contaminants including PFAS, metals (aluminium, arsenic, barium, beryllium, boron, cadmium, chromium [total], chromium [hexavalent], cobalt, copper, lead, manganese, nickel, selenium, vanadium, mercury and zinc), TRH, BTEX and naphthalene (BTEXN).

The following contaminants were detected in spoil at concentrations that exceeded assessment criteria as follows (Aurora, 2022):

- PFAS including leachate concentrations that exceeded freshwater criteria for 99% species protection – high conservation value systems.
- Elevated metals including concentrations of arsenic, chromium, copper, nickel and zinc that exceeded EILs for Areas of Ecological Significance and for Urban Residential and Public Open Space.
- TRH in seven stockpiles at concentrations that exceeded Ecological Screening Levels (ESLs) for Areas of Ecological Significance and for Urban Residential and Public Open Space.

4. Sampling and Analysis Quality Program

4.1 Data Quality Objectives

The primary objective for this assessment was to provide an understanding of the groundwater, surface water and sediment conditions on and in immediate proximity to the Site and to collect a comprehensive dataset that could be used to inform further risk assessment for the re-use of non-quarried materials at the Site including but not limited to FAL spoil. This understanding was required to identify whether further investigation, management and/or remediation may be required.

Quality assurance/quality control (QA/QC) procedures employed by WEPL and the laboratory during the assessment were in accordance with the seven-step data quality objectives (DQO) requirements (see Table B) as outlined in Schedule B2 of the ASC NEPM (NEPC, 2013).

A number of actions, procedures, checks and decisions were undertaken by WEPL to ensure the accuracy and reliability of analytical results and to ensure the representativeness and integrity of samples collected. These actions and procedures form part of WEPL QA process, and reference the methods described in the ASC NEPM (NEPC, 2013). In summary, project DQOs have been set to ensure the objectives of the investigation are met.

The following DQOs have been identified for assessment of water and sediment quality (Table B).

Table B: Data Quality Objectives, Process and Requirements - Groundwater, Surface Water and Sediment

DQO	Assessment and characterisation of potential water or sediment impacts associated with current and former Site activities to assess potential risks posed to human health and ecological receptors under the existing and proposed future land use (residential [urban and rural]/ecological areas/POS/commercial)
State the problem	A PSI has been completed on-Site (Senversa, 2021) and a number of key areas of potential concern were identified (refer to Section 3.1 for detail). The PSI found there was current and historical agricultural activities at and surrounding the Site are likely to have included the storage and use of chemical for agricultural purposes and may have impacted soil, groundwater and surface water. Therefore, there is limited data to comprehensively assess whether the groundwater, surface water and sediment at, upstream/upgradient and downstream/downgradient of the Site has been adversely impacted by historical (or current) land uses and presents a risk for the Project during construction. To this end, it is unclear whether there are unacceptable risks to human health and/or ecological receptors (both on-site and off-site) in the context of the proposed construction of the Project and proposed land use. Revised guidelines for the management of PFAS have been released in 2025 with an increase in the sensitivity of derived Tier 1 Risk Assessment criteria for the protection of ecological and human health receptors. FAL spoil re-use risk assessments have been completed for the Project in 2022 and 2024; however,

DQO	Assessment and characterisation of potential water or sediment impacts associated with current and former Site activities to assess potential risks posed to human health and ecological receptors under the existing and proposed future land use (residential [urban and rural]/ecological areas/POS/commercial)
	further risk assessment may be requested and/or required for the Project following the 2025 guidelines updates.
Identify the decision	To determine whether any contaminant levels detected in groundwater, surface water and sediment on-site exceed the nominated assessment criteria. If so, do they pose an unacceptable risk to human health and/or the environment in the context of the proposed construction activities and existing and proposed land use (i.e. residential [urban and rural]/ecological areas/POS/commercial).
Identify inputs to the decision	Consideration of visual and olfactory evidence of contamination, groundwater, surface water and sediment, logging observations. Measured concentrations from selected groundwater, surface water and sediment sampling locations, determining appropriate assessment criteria and ensuring relevant laboratory analytical methods are used.
Define the spatial boundaries	Spatial and depth - the groundwater sampling locations are shown on Figure 3a to 3d. The surface water and sediment sampling locations are shown on Figure 4a to 4d. Groundwater was generally sampled from the upper extent of the superficial aquifer. Temporal - the soil sampling was undertaken in July 2025.
Specify the tolerable limits on decision errors	Two types of decision errors are possible, sampling error (i.e. samples collected are not representative of the Site conditions) or measurement errors (e.g. errors associated with data collection and analysis). To minimise the potential for decision errors, a robust quality QA/QC program was incorporated into these works in accordance with DWER (2021) and NEPC (2013) guidance. Data quality indicators of precision, accuracy, representativeness, completeness and comparability were applied to assess the usability of data in the decision-making process as identified in Schedule 2B of the ASC NEPM (NEPC, 2013). Acceptable limits for laboratory criteria are defined as follows: • Relative Percentage Differences (RPDs) between original and duplicate samples: <5 x Practical Quantification Limit (PQL) - any RPD is acceptable, >5 x PQL- 0 - 30% RPD is acceptable. • Analyte concentrations in all blank samples to be at or below the nominated limits of detection. • Recovery of matrix and surrogate spikes and laboratory control samples: generally, 70 - 130% for inorganics/metals is acceptable. • The range of parameters of interest are based on the laboratory limits of reporting (maximum reported levels of analytes).
Optimise design for obtaining data	The following measures were adopted in order to optimise the data collection process: • Adherence to relevant guidelines (see Section 4.2). • Adherence to field and laboratory QA/QC protocols. • Use of suitable laboratory Limit of Reporting (LORs). • Use of NATA accredited laboratories (where possible).

4.2 Guidance Documents

The sampling and analysis were undertaken in general accordance with the following guidance documents:

- DWER. (2021). *Assessment and Management of Contaminated Sites, Contaminated Sites Guidelines, Department of Environment Regulation.*
- NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999, National Environment Protection Council.*
- Heads of the Environment Protection Authority (HEPA). (2025). *PFAS National Environmental Management Plan (NEMP) 3.0.*

4.3 Groundwater Sampling Locations and Methodology

Fieldwork for the groundwater baseline assessment was completed between 3 and 7 July 2025. Eleven (11) groundwater wells were able to be accessed and sampled including A19-BH01, T25-MW08, A19-BH-05, A20-GW04, T25-MW15, T25-MW01, T25-MW03, T25-MW05, T25-MW18, T25-MW30 and THEXT21-GW04. Groundwater monitoring locations are presented in Figure 3a to Figure 3d.

Groundwater was generally sampled from the upper extent of the superficial aquifer; however, groundwater at one location (A20-GW04) was collected from near the estimated lower extent of the superficial aquifer as no accessible shallow wells could be identified in the area.

Groundwater sampling was completed by a qualified Senior Environmental Scientist using a low-flow sampling technique (peristaltic pump), detailed as follows:

- Prior to groundwater sampling the well was monitored for the presence of LNAPLs or separate phase product using an oil/water interface probe along with the standing water level (SWL) or depth to water (DTW) below the top of the PVC pipe. The depth to base (DTB) in each well was measured after sampling to prevent the suspension of any fine particulates accumulated at the bottom of the well.
- The pump intake was typically lowered to approximately 0.5 m below the standing water level and within the well screen. This intake depth was chosen to prevent re-suspension of solids that may be present at the base of the well.
- Groundwater was purged at a rate <1 L/min and continuous water quality measurements taken during this period. Parameters measured include pH, EC, DO and redox potential. Water temperature was also measured but did not form part of the stabilisation parameters. The colour, turbidity and any odour were also noted.
- A water level meter was kept down-well during sampling to ensure that sample recovery rate does not result in a drawdown in excess of 0.1 m during sampling.

- Sampling of groundwater began once water quality parameters had stabilised, i.e. when there is <10% variation in physico-chemical parameters between three consecutive readings. Samples were taken directly from disposable low-density polyethylene (LDPE) hosing, prior to entering the flow cell.
- Groundwater samples were immediately placed into appropriate laboratory-prepared containers, containing preservatives as required for the specific analytes. Samples were stored on ice in an insulated container for the contaminant to be tested in accordance with the standard. Each sample was labelled with details of sample location, date and job number.
- All bottles for the designated analysis were completely filled sequentially. Vials for volatile contaminant were filled first to minimise potential for volatilisation, followed by semi-volatiles and so on. Samples for dissolved metals analysis were field filtered using an inline 45 µm disposable filter. Disposable filters were used only once for each groundwater monitoring well to eliminate the need for decontamination procedures.
- The well cap was replaced and the cover was closed at the completion of sample collection.
- The water level meter was decontaminated between each use. Disposable LDPE tubing was used at each groundwater monitoring location.

4.4 Surface Water Sampling Locations and Methodology

Fieldwork for the surface water baseline assessment was completed on 3 July 2025. Samples were collected from seven (7) water courses (drains, creeks and/or brooks) that intersect the Site including Oaklands Drain, Beenyup Brook Drain, two unnamed tributaries/drains, Cardup Brook, Manjedal Brook and Medulla Brook). Samples were collected from upstream and downstream of the Site at the Site boundaries. Fourteen (14) samples were collected in total. Surface water sampling locations are presented in Figure 4a to Figure 4d.

Surface water sampling was completed by a qualified Senior Environmental Scientist using a n extendable sampling pole or directly by hand, detailed as follows:

- Surface water was sampled as close as practicable from the deepest point and/or centre of surface water. Surface water samples were collected prior to sediment sample collection to prevent the disturbance of fines.
- Surface water samples were collected from approximately 0.5 m below the surface, or mid-column for shallower sampling locations, with care taken to minimise collection of sediment or floating materials in the samples.
- Samples were either collected directly into laboratory supplied bottles by hand from the bank of the surface water feature or by using a reusable surface water sampler with water decanted from the sampler into laboratory supplied bottles. The reusable surface water sampler was decontaminated between sample locations as outlined in Section 4.7.

- Samples for dissolved metal analysis were field filtered once on the shore using a disposable 45 micron filter filled using a disposable syringe. Disposable filters were used only once for each surface water monitoring location to eliminate the need for decontamination procedures.
- Surface water samples were immediately placed into appropriate laboratory-prepared containers, containing preservatives as required for the specific analytes. Samples were stored on ice in an insulated container for the contaminant to be tested in accordance with the standard. Each sample was labelled with details of sample location, date and job number.
- Surface water field parameters were measured including pH, EC, TDS, dissolved oxygen (DO), redox potential and temperature.

4.5 Sediment Sampling Methodology

Fieldwork for the sediment baseline assessment was completed on 3 July 2025. Samples were collected from each of the seven (7) downgradient surface water sample locations as outlined in Section 4.4 and in Figure 4a to Figure 4d.

Sediment samples were collected at safely accessible locations by hand directly into laboratory supplied jars from the bank of the surface water feature and below the shallow water line. Where access was restricted the sediment sample was collected from above the water line and the lowest point of an accessible section of the surface water feature that would be inundated with surface water and sediment deposited during higher flow events.

Sediment samples were immediately placed into appropriate laboratory-prepared containers, containing preservatives as required for the specific analytes. Samples were stored on ice in an insulated container for the contaminant to be tested in accordance with the standard. Each sample was labelled with details of sample location, date and job number.

4.6 Assessment Criteria

Assessment of potential risks to human health and/or the environment were made through the comparison of analytical results to established threshold levels or assessment criteria. These criteria are dependent mainly on the proposed end use of the Site and immediate surrounds (residential, rural residential, POS and commercial [road reserve], and areas of ecological significance) and the associated risks (either on or off-site).

Assessment criteria have been sourced from the following guidelines as presented in Table C:

- ASC NEPM (NEPC, 2013).
- The Assessment and Management of Contaminated Sites (DWER, 2021).
- PFAS NEMP 3.0 (HEPA, 2025).

- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2025).
- Guidelines for Managing Risks in Recreational Waters (NHMRC, 2008).
- Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes (DER, 2015).

Note that soil ecological assessment criteria have been adopted for conservative assessment purposes where sediment assessment criteria are not established.

Table C: Adopted Assessment Criteria

Media	Adopted Assessment Criteria	
	Human Health	Ecological
Groundwater	ASC NEPM (NEPC, 2013): • Health Screening Level (HSL)-A & HSL-B Vapour intrusion (low-high density residential), Sand, $\geq 0\text{m}$, $< 4\text{m}$. • HSL-A & HSL-B Vapour intrusion (low-high density residential), Clay, $\geq 0\text{m}$, $< 4\text{m}$. • HSL-C Vapour intrusion (recreational / open space), Sand, $\geq 0\text{m}$, $< 1\text{m}$. • HSL-C Vapour intrusion (recreational / open space), Sand, $\geq 0\text{m}$, $< 1\text{m}$.	
	• NHMRC (2008) Guidelines for managing risks in recreational water • PFAS NEMP (2025) Recreational water quality guideline • Western Australian Department of Health (DoH) (2014) Non-Potable Groundwater Use (NPUG)	• ANZG (2025) Freshwater Default Guideline Values (DGVs) (95% species protection) • ANZG (2025) Freshwater DGVs (99% species protection) • PFAS NEMP (2025) (95% species protection) • PFAS NEMP (2025) (99% species protection)
Surface Water	• NHMRC (2008) Recreational water quality guideline • PFAS NEMP (2025) Recreational water quality guideline	• ANZG (2025) Freshwater DGVs (95% species protection) • ANZG (2025) Freshwater DGVs (99% species protection) • PFAS NEMP (2025) (95% species protection) • PFAS NEMP (2025) (99% species protection)

Media	Adopted Assessment Criteria	
	Human Health	Ecological
Sediment	Nil	ANZG (2025): - Toxicant Default Guideline Values for Sediment Quality - DGV - Toxicant Default Guideline Values for Sediment Quality - GV - High ASC NEPM (NEPC, 2013): - Ecological Investigation Level (EIL) - Areas of ecological significance (site-specific)*. - EIL - Urban Residential/POS (site-specific)*. - Ecological Investigation Level (EIL) - Areas of ecological significance (generic- conservative values)**. - EIL - Urban Residential/POS (generic - conservative values)**. - Ecological Screening Levels (ESLs) (Areas of ecological significance), coarse soil (0 - <2 m). - ESLs (Areas of ecological significance), fine soil (0 - <2 m). - ESLs (Urban residential/POS), coarse soil (0 - <2 m). - ESLs (Urban residential/POS), fine soil (0 - <2 m). PFAS NEMP 3.0 (HEPA, 2025): - Ecological direct exposure (all land uses). - Interim ecological indirect exposure (all land uses). WA State ASS Guideline (DER, 2015): - Net Acidity ($\geq 0.03\%$S). * Note that soil EILs were calculated for the Site as detailed in the Soil Baseline Assessment report (WEPL, 2025). ** A pH of 7 was applied in the calculation of generic and conservative EILs based on the reported pH_{FIELD} results for the sediment samples.

4.7 Quality Assurance and Quality Control (QA/QC)

4.7.1 Field QA/QC

WEPL QC processes were used to monitor and measure the effectiveness of QA procedures and included operational techniques to meet the guidelines and quality requirements. NATA-accredited laboratories were used for this contaminated site assessment. Table D provides a summary of the QA/QC procedures employed.

Table D: Summary of QA/QC

QA/QC Procedure	Description
Record Keeping	Detailed records of all field activities including sample collection and description were maintained via field logging and completion of appropriate field templates.
Sample Labelling	Unique sample numbers were used for each sample to clearly specify the sample origin (source, date and sample type code), preservation techniques used and accepting custody of samples.
Chain of Custody	Chain of custody (CoC) documentation were used for all sample transfers. CoC forms included sample numbers, description, sample date and were signed by the persons transferring and accepting custody of the samples.
Sample Collection and Decontamination	All reusable sampling equipment including the water level meter and the surface water sampler was decontaminated according to the following procedure: • Solution 1: 20 L of 1% DECON-90 in scheme tap water, which includes a brush scrub. • Solution 2: Rinse using laboratory supplied deionised waters. • The water level meter was dried using laboratory supplied paper towels to avoid potential impacts associated with residual water. The surface water sampler was rinsed out three times with surface water at each location before a sample immediately upgradient was collected.
Sample Storage	Groundwater, surface water and sediment samples were transferred into appropriate laboratory prepared sample jars/bottles provided by a NATA-accredited laboratory and placed in pre-chilled storage containers prior to being transferred in cool storage to the laboratory.
QA/QC Samples	The water sampling program included the collection of three duplicate and triplicate samples at a rate of one per 10 samples as follows: • One surface water field duplicate sample: DUP01. • One surface water field triplicate sample: TRIP01. • Two groundwater field duplicate samples: DUP02, DUP03. • Two groundwater field triplicate samples: TRIP02, TRIP03. Triplicate samples were submitted to a secondary laboratory for analysis. A rinsate blank was collected from each piece of reusable sampling equipment at a rate of one per day as follows: • RB01, 3 July - collected from the surface water sampler. • RB02, 3 July - collected from the water level meter. • RINS02, 4 July - collected from the water level meter. • RINS03, 7 July - collected from the water level meter. A combined field and transport blank was collected at a rate of one per each day of sampling.

4.7.2 Laboratory QA/QC

Laboratory analysis was undertaken at laboratories that are NATA-accredited for all analyses. LORs or Estimated Quantification Limits (EQLs) were set to meet the adopted assessment criteria, where possible.

The laboratory results were able to demonstrate the following:

- Freedom from contamination.

-
- Method accuracy and precision was reliably achieved.
 - Conformance to the performance characteristics expected of the method.
 - Confidence in the results produced.
 - Relative Percent Differences (RPDs) between original and duplicate samples: < 5 x PQL - any RPD is acceptable; > 5 x PQL – 0 - 30 % RPD is acceptable.
 - Matrix Spike and Laboratory Control Samples: generally, 70 - 130 % for inorganics/metals; 60 - 140 % for organics; 30 - 130 % for low level organics was acceptable.
 - Analyte concentrations in transport blanks are below the nominated limits of detection.

The RPD calculation was used to normalise each pair of results to allow for better QA/QC data interpretation. For those RPD values which exceed a generally acceptable 30% (NEPC, 2013) data correlation is considered poor; however, consideration had to be given to sample homogeneity and the concentrations detected.

The laboratory is normally required to meet these criteria before reporting results. In circumstances where the RPD % or the spike recovery rate exceed the relevant threshold, but the measured concentrations are close to the detection limit and well below guideline concentrations, the laboratory will not have re-analysed the sample. If the calculated RPD exceeded 30%, then the highest value was used for assessment purposes.

5. Investigation Results

Groundwater, surface water and sediment sampling was completed over three days between 3 to 7 July 2025 by two experienced Environmental Scientists (Filip Magnusson and Zandile Okonji).

The laboratory analysis was undertaken at the following NATA-accredited laboratories for all analyses.

- Primary laboratory – SGS (Perth, Western Australia).
- Secondary laboratory – ALS Environmental (Perth, Western Australia).

Laboratory Limits of Reporting (LORs) were set to meet the adopted assessment criteria where possible.

Land uses observed during the field work included a mixture of semi-rural residential properties and farming paddocks that were vacant or used by livestock, as well as local and major roads with adjacent road reserve vegetation and a PSP in the north of the Site. Low density residential estates surrounding the Site were also observed.

5.1 Groundwater

The groundwater sample program included collection of water quality parameters and samples at 11 monitoring well locations. Eleven (11) primary groundwater samples and 10 QA/QC samples, including the three daily combined field and transport blank samples, were subject to analysis at a NATA accredited laboratory for analysis.

5.1.1 Field Observations

Summarised groundwater observations and measurements are presented in Table E and are tabulated in Table 1.

Table E: Groundwater Field Observations and Measurements

Compound	Criteria
Sampling dates	Groundwater samples were taken over three days including 3, 4 and 7 July 2025.
Access and sample collection	Eleven (11) groundwater locations were able to be accessed and sampled during the July sampling event. However, WEPL attempted to collect samples at 14 other groundwater wells across the Site but those wells were not able to be sampled for groundwater as they were either inaccessible, unable to be located, destroyed/damaged or dry.
Water quality parameters	Water quality measurements were taken during the sample collection using a Geopump peristaltic pump with a flow cell attached to a YSI pro Water Quality Meter. Stabilised readings are presented in Table 1 and are summarised below. • Dissolved oxygen (DO) ranged from 1.78 mg/L (THEXT21-GW04) to 7.2 mg/L (T25-MW05) indicating poor to moderately oxygenated water. • Electrical conductivity (EC) ranged from 370 µS/cm (T25-MW30) to 5038 µS/cm (T25-MW01) indicating freshwater to brackish conditions.

Compound	Criteria
	- pH ranged from 4.34 (A19-BH-05) to 8.88 (T25-MW03) indicating groundwater is acidic to slightly basic. - Redox ranged from -63.3 mV (THEXT21-GW04) to 149.2 mV (T25-MW08) indicating reducing to oxidising conditions.
Water conditions	Turbidity was noted to be low in most locations and moderate at T25-MW15 and T25-MW03. No visual or olfactory signs of potential contamination were observed.

5.1.2 Laboratory Analytical Results

All groundwater analytical results have been tabulated and formatted to reflect exceedances of the adopted guideline criteria; groundwater analytical data is presented in Tables 3A, 3B and 3C. Sample locations are presented in Figure 3a-3d. Laboratory documentation including CoCs and Certificates of Analysis (CoA) are presented in Appendix B.

Reported analytical data for all samples was compliant with the adopted ecological and human health assessment criteria excluding the following results:

- Reported aluminium (total) concentrations for sample 'T25-MW05' (0.081 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.055 mg/L).
- Reported aluminium (total) concentrations for all samples (excluding 'T25-MW05') exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.055 mg/L) and the DoH NPUG assessment criteria (0.2 mg/L).
- Reported aluminium (filtered) concentrations for samples 'T25-MW08' (0.019 mg/L) and 'TEXT21-GW04' (0.08 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.055 mg/L).
- Reported aluminium (filtered) concentrations for samples 'A19-BH-01' (0.82 mg/L), 'A19-BH-05' (6.3 mg/L) and 'T25-MW30' (1.2 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.055 mg/L) and the DoH NPUG assessment criteria (0.2 mg/L).
- Reported arsenic (filtered) concentrations for samples 'T25-MW01' (0.0015 mg/L), 'T25-MW03' (0.0009 mg/L), 'T25-MW05' (0.0016 mg/L) and 'T25-MW15' (0.0024 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (speciated guideline for AsV) (0.0008 mg/L).
- Reported cadmium (filtered) concentrations for sample 'A19-BH-05' (0.0010 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.0002 mg/L) and ANZG Freshwater Toxicant DGV LOSP 99% (0.00006 mg/L).
- Reported cadmium (filtered) concentrations for sample 'A19-BH-01' (0.00010 mg/L), 'T25-MW01' (0.00017 mg/L), 'T25-MW03' (0.00009 mg/L) and 'THEXT21-GW04' (0.00008 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (0.00006 mg/L).

- Reported chromium (III+VI) (filtered) concentrations for samples 'A19-BH-01' (0.0030 mg/L), 'A19-BH-05' (0.0018 mg/L), 'T25-MW01' (0.0034 mg/L), 'T25-MW03' (0.0020 mg/L), 'T25-MW08' (0.0016 mg/L), 'T25-MW30' (0.0066 mg/L) and 'THEXT21-GW04' (0.0015 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (speciated guideline for CrVI) (0.001 mg/L) and the ANZG Freshwater Toxicant DGV LOSP 99% (speciated guideline for CrVI) (0.00001 mg/L).
- Reported copper (filtered) concentrations for all samples exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.0014 mg/L) and the ANZG Freshwater Toxicant DGV LOSP 99% (0.001 mg/L).
- Reported iron (total) concentrations for all samples exceeded the DoH NPUG assessment criteria (0.3 mg/L).
- Reported iron (filtered) concentrations for samples 'A19-BH-01' (2.3 mg/L), 'T25-MW05' (0.32 mg/L), 'T25-MW08' (10 mg/L), 'T25-MW15' (5.7 mg/L) and 'T25-MW30' (1.6 mg/L) exceeded the DoH NPUG assessment criteria (0.3 mg/L).
- Reported lead (filtered) concentrations for sample 'T25-MW30' (0.0087 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.0034 mg/L) and the ANZG Freshwater Toxicant DGV LOSP 99% (0.001 mg/L).
- Reported lead (filtered) concentrations for sample 'A19-BH-01' (0.0022 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (0.001 mg/L).
- Reported manganese (filtered) concentrations for sample 'T25-MW08' (1.5 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (1.2 mg/L).
- Reported mercury (filtered) concentrations for sample 'T25-MW30' (0.00007 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (0.00006 mg/L).
- Reported nickel (filtered) concentrations for samples 'A19-BH-05' (0.012 mg/L) and 'T25-MW01' (0.012 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.011 mg/L).
- Reported selenium (filtered) concentrations for sample 'T25-MW01' (0.01 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (0.005 mg/L).
- Reported zinc (filtered) concentrations for samples 'A19-BH-05' (0.022 mg/kg), 'T25-MW01' (0.032 mg/L), 'T25-MW03' (0.037 mg/L), 'T25-MW30' (0.014 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.008 mg/L) and the ANZG Freshwater Toxicant DGV LOSP 99% (0.0024 mg/L).
- Reported zinc (filtered) concentrations for samples 'A19-BH-01' (0.006 mg/kg), 'A20-GW04' (0.006 mg/L), 'T25-MW05' (0.005 mg/L), 'T25-MW08' (0.004 mg/L), 'T25-MW15' (0.006 mg/L), 'T25-MW18' (0.005 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (0.0024 mg/L).

- Reported ammonia as N (filtered) concentrations for samples 'A19-BH-01' (0.37 mg/L) and 'T25-MW08' (0.36 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (0.32 mg/L).
- Reported ammonia as N (filtered) concentrations for sample 'A19-BH-05' (0.52 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (0.32 mg/L) and the DoH NPUG assessment criteria (0.411 mg/L).
- Reported chloride (filtered) concentrations for samples 'A20-GW04' (300 mg/L), 'T25-MW01' (1,700 mg/L), 'T25-MW05' (420 mg/L) and 'T25-MW08' (490 mg/L) exceeded the DoH NPUG assessment criteria (250 mg/L).
- Reported nitrate (as N) (filtered) concentrations for samples 'A19-BH-01' (33 mg/L), 'A19-BH-05' (21 mg/L), 'T25-MW01' (1.2 mg/L), 'T25-MW03' (0.49 mg/L), 'T25-MW08' (0.11 mg/L), 'T25-MW15' (3.6 mg/L) and 'T25-MW18' (2.4 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% criteria (0.0011 mg/L) and .
- Reported perfluorooctane sulfonic acid (PFOS) concentrations for samples 'T25-MW01' (0.0023 mg/L) and 'T25-MW03' (0.0029 mg/L) exceeded the PFAS NEMP Freshwater 99% species protection value (0.00023 mg/L).

5.2 Surface Water

The surface water sample program included collection of water quality parameters and samples at 14 monitoring locations. Fourteen (14) primary surface water samples and six (6) QA/QC samples, including the three daily combined field and transport blank samples, were subject to analysis at a NATA accredited laboratory for analysis.

5.2.1 Field Observations

Summarised surface water observations and measurements are presented in Table F and are tabulated in Table 2. Field photographs of each surface water location are presented in Appendix A.

Table F: Surface Water Field Observations and Measurements

Compound	Criteria
Sampling dates	All 14 surface water target samples were taken on 3 July 2025.
Access and sample collection	Seven surface water locations that cross the THE Project alignment were sampled from the upstream and downstream Site boundaries. All locations were accessible, and samples were able to be collected.
Water quality parameters	Water quality measurement was taken during the sample collection using a YSI pro Water Quality Meter. Stabilised readings are presented in Table 2 and are summarised below. • DO ranged from 2.11 mg/L (SW06-UP) to 9.84 mg/L (SW01-DOWN) indicating poor to moderately oxygenated water.

Compound	Criteria
	- EC ranged from 199.9 $\mu\text{S}/\text{cm}$ (SW07-UP) to 718 $\mu\text{S}/\text{cm}$ (SW05-DOWN) indicating freshwater conditions. - pH ranged from 5.26 (SW02-DOWN) to 8.1 (SW01-UP) indicating neutral conditions with some slightly acidic and slightly alkaline conditions observed. - Redox ranged from -14.2 mV (SW06-UP) to 203.9 mV (SW02-DOWN) indicating reducing to oxidising conditions.
Water conditions	Turbidity was noted to range from low to high. No visual or olfactory signs of potential contamination were observed.

5.2.2 Laboratory Analytical Results

All sediment analytical results have been tabulated and formatted to reflect exceedances of the adopted guideline criteria; sediment analytical data is presented in Tables 4A, 4B and 4C. Sample locations are presented in Figure 4a-4d. Laboratory documentation including CoCs and CoAs are presented in Appendix B.

Reported analytical data for all samples was compliant with the adopted ecological and human health assessment criteria excluding the following results:

- Reported aluminium (total) concentrations for all samples exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.055 mg/L).
- Reported aluminium (filtered) concentrations for samples 'SW02-DOWN' (0.47 mg/L), 'SW02-UP' (0.45 mg/L), 'SW03-UP' (1.7 mg/L), 'SW04-DOWN' (0.069 mg/L), 'SW05-DOWN' (0.26 mg/L), 'SW05-UP' (0.25 mg/L), 'SW06-DOWN' (0.25 mg/L), 'SW06-UP' (0.23 mg/L), 'SW07-DOWN' (0.29 mg/L) and 'SW07-UP' (0.51 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.055 mg/L).
- Reported arsenic (filtered) concentrations for samples 'SW05-DOWN' (0.0009 mg/L) and 'SW05-UP' (0.0009 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (speciated guideline for AsV) (0.0008 mg/L).
- Reported cadmium (filtered) concentrations for samples 'SW05-DOWN' (0.00007 mg/L) and 'SW05-UP' (0.00007 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (0.00006 mg/L).
- Reported chromium (III+VI) (filtered) concentrations for samples 'SW02-DOWN' (0.0008 mg/L), 'SW02-UP' (0.0007 mg/L), 'SW05-DOWN' (0.0009 mg/L) and 'SW05-UP' (0.0008 mg/L) and 'SW07-UP' (0.0007 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (speciated guideline for CrVI) (0.00001 mg/L).
- Reported chromium (III+VI) (filtered) concentrations for sample 'SW03-UP' (0.0027 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (speciated guideline for CrVI) (0.001 mg/L) and ANZG Freshwater Toxicant DGV LOSP 99% (speciated guideline for CrVI) (0.00001 mg/L).

- Reported copper (filtered) concentrations for samples 'SW02-DOWN' (0.0020 mg/L), 'SW02-UP' (0.0028 mg/L), 'SW03-DOWN' (0.0024 mg/L), 'SW03-UP' (0.0042 mg/L), 'SW04-DOWN' (0.0015 mg/L), 'SW04-UP' (0.0016 mg/L), 'SW05-DOWN' (0.0036 mg/L), 'SW05-UP' (0.0035 mg/L), 'SW06-UP' (0.0021 mg/L), 'SW07-DOWN' (0.0018 mg/L) and 'SW07-UP' (0.0022 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.0014 mg/L).
- Reported copper (filtered) concentrations for sample 'SW06-DOWN' (0.0027 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.0014 mg/L) and the ANZG Freshwater Toxicant DGV LOSP 99% (0.001 mg/L).
- Reported lead (filtered) concentrations for sample 'SW03-UP' (0.0074 mg/L) exceeded the ANZG Freshwater Toxicant DGVs LOSP 95% (0.0034 mg/L) and the ANZG Freshwater Toxicant DGV LOSP 99% (0.001 mg/L).
- Reported zinc (filtered) concentrations for samples 'SW02-DOWN' (0.005 mg/L), 'SW02-UP' (0.005 mg/L), 'SW04-DOWN' (0.004 mg/L), 'SW04-UP' (0.004 mg/L), 'SW06-DOWN' (0.005 mg/L), 'SW07-DOWN' (0.004 mg/L) and 'SW07-UP' (0.008 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 99% (0.0024 mg/L).
- Reported zinc (filtered) concentrations for samples 'SW03-UP' (0.0022 mg/L), 'SW05-DOWN' (0.0016 mg/L), 'SW05-UP' (0.0016 mg/L), 'SW06-UP' (0.009 mg/L) exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (0.008 mg/L) and the ANZG Freshwater Toxicant DGV LOSP 99% (0.0024 mg/L).
- Reported nitrate (as N) (filtered) concentrations for all samples exceeded the ANZG Freshwater Toxicant DGV LOSP 95% (speciated value for nitrate) (0.0011 mg/L) and the ANZG Freshwater Toxicant DGV LOSP 99% (speciated value for nitrate) (0.00064 mg/L).
- Reported PFOS concentrations for samples 'SW03-DOWN' (0.006 mg/L), 'SW04-DOWN' (0.0012 mg/L), 'SW04-UP' (0.0009 mg/L), 'SW07-DOWN' (0.011 mg/L) and 'SW07-UP' (0.0054 mg/L) exceeded the PFAS NEMP Freshwater 99% species protection value (0.00023 mg/L).

5.3 Sediment

The sediment sample program included collection of samples at seven (7) surface water monitoring locations. Seven (7) primary sediment samples and one (1) QA/QC sample, including the daily combined field and transport blank sample, were subject to analysis at a NATA accredited laboratory for analysis.

5.3.1 Field Observations

The general sediment profile observed within the Site included brown and black sandy silts and silty clays. No visual or olfactory signs of potential contamination were observed during the field work such as staining. Site photographs are provided in Appendix A.

5.3.2 Laboratory Analytical Results

All sediment analytical results have been tabulated and formatted to reflect exceedances of the adopted guideline criteria; sediment analytical data is presented in Tables 5A, 5B, 5C and 5D. Sample locations are presented in Figure 4a-4d. Laboratory documentation including CoCs and CoAs are presented in Appendix B.

Reported analytical data for all samples was compliant with the adopted ecological and human health assessment criteria excluding the following results:

- Reported Ni concentrations for samples 'SD04-DOWN' (5.9 mg/kg) and 'SD06-DOWN' (8.9 mg/kg) exceeded the adopted conservative generic EIL for Areas of Ecological Significance (5 mg/kg).
- Reported TPH (C6-C36 Fraction) concentrations for samples 'SD01-DOWN' (2,600 mg/kg), 'SD02-DOWN' (1,500 mg/kg), 'SD04-DOWN' (2,000 mg/kg), 'SD05-DOWN' (3,500 mg/kg) and 'SD06-DOWN' (760 mg/kg) exceeded the following guidelines:
 - o Sediment DGV (280 mg/kg).
 - o Sediment GV-High (550 mg/kg).
- Reported F2 (>C10-C16 minus naphthalene) concentrations for samples 'SD01-DOWN' (720 mg/kg), 'SD02-DOWN' (230 mg/kg), 'SD04-DOWN' (310 mg/kg), 'SD05-DOWN' (490 mg/kg) exceeded the following guidelines:
 - o ESL for Areas of Ecological Significance, Coarse and Fine Soil $\geq 0\text{m}$, $< 2\text{m}$ (25 mg/kg).
 - o ESL for Urban Residential & Public Open Space, Coarse and Fine Soil $\geq 0\text{m}$, $< 2\text{m}$ (120 mg/kg).
- Reported F2 (>C10-C16 minus naphthalene) concentrations for samples 'SD06-DOWN' (110 mg/kg) exceeded the following guidelines:
 - o ESL for Areas of Ecological Significance, Coarse and Fine Soil $\geq 0\text{m}$, $< 2\text{m}$ (25 mg/kg).
- Reported F3 (C16-C34 Fraction) concentrations for samples 'SD01-DOWN' (1,500 mg/kg), 'SD04-DOWN' (1,500 mg/kg) and 'SD05-DOWN' (2,500 mg/kg) exceeded the following guidelines:
 - o ESL for Urban Residential & Public Open Space, Coarse Soil $\geq 0\text{m}$, $< 2\text{m}$ (300 mg/kg).
 - o ESL for Urban Residential & Public Open Space, Fine Soil $\geq 0\text{m}$, $< 2\text{m}$ (1,300 mg/kg).
- Reported F3 (C16-C34 Fraction) concentrations for samples 'SD02-DOWN' (950 mg/kg) and 'SD06-DOWN' (570 mg/kg) exceeded the following guidelines:
 - o ESL for Urban Residential & Public Open Space, Coarse Soil $\geq 0\text{m}$, $< 2\text{m}$ (300 mg/kg).

-
- Reported PFOS concentrations for sample 'SD07-DOWN' (0.0081 mg/kg) exceeded the PFAS NEMP (2025) Interim ecological indirect exposure criteria for all land uses (0.003 mg/kg).
 - Reported ASS parameters including pH_{FOX} (2.4 pH units), TAA (0.03% S) and Net Acidity excluding ANC (23 mol H⁺/t) exceeded the ASS identification criteria.

6. QA/QC Evaluation

Quality assurance/quality control (QA/QC) procedures employed by WEPL and the laboratory during the investigation were in general accordance with the requirements detailed in Schedule B2 of the ASC NEPM (NEPC, 2013) and the PFAS NEMP (HEPA, 2025). Upon receipt, analytical reports were assessed by WEPL to ensure that the data was of sufficient quality to meet the overall data objectives.

As SGS Australia and ALS Environmental are NATA accredited for all analysis performed, it is considered unnecessary to review the laboratory analytical procedures. The methodologies used are detailed in the laboratory CoAs contained in Appendix B.

During the groundwater, surface water and surface water sediment sampling program (completed over three days) the following number of QA/QC samples were collected and analysed as detailed in Table G.

Table G: Summary of QA/QC Procedures

Sample	Recommended Sampling Rate	Water QC	Sediment QC	Comment
Duplicates	1 per 10 samples (PFAS analysis) and 1 per 20 samples (all other analysis)	3	0	Total of 11 groundwater, 14 surface water and 7 sediment primary samples analysed. Compliant - ratio of 1 duplicate (for water analysis) (DUP01, DUP02 and DUP03) per 10 primary samples.
Triplicates	1 per 10 samples (PFAS analysis) and 1 per 20 samples (all other analysis)	3	0	Total of 11 groundwater, 14 surface water and 7 sediment primary samples analysed. Compliant - ratio of 1 duplicate (for water analysis) (TRIP01, TRIP02 and TRIP03) per 10 primary samples.
Field Blank/Trip (transport) Blank	1 per day		3	Compliant - four field/trip blanks (FB/TB, FB/TB01) – metals, BTEX, TRH and PFAS collected on 3, 4, and 7 July 2025.
Rinsate Blank	1 per day or per sample batch		4	Compliant - Four rinsate blanks (RB01, RB02, RINS02, and RINS03 - metals, BTEX, TRH and PFAS) collected on 3, 4, and 7 July 2025 from the interface probe and sampling pole.

6.1 Laboratory QA/QC Data

All primary and secondary laboratory QC data is contained within the CoA and Quality Control Reports, which are included in Appendix B.

The method blank analysis, duplicate analysis, laboratory control spike recovery, matrix spike recovery data and surrogate recovery data were all within laboratory acceptance criteria excluding the following exceptions.

Laboratory Surrogate Spike Recoveries

Laboratory surrogate spike recoveries were generally within acceptance criteria with the following exceptions outlined in Table H.

Surrogate spike recoveries for 2-fluorophenol, d14-p-terphenyl, d14-p-terphenyl, 2,4,6 - tribromophenol, PFTeDA, PFOSA, MeFOSA, MeFOSE, EtFOSE were greater than the upper control limit, therefore there is a potential for concentrations of these analytes in the listed samples to be over-reported. Surrogate spike recoveries for d6-phenol were less than the lower control limit, therefore there is a potential for concentrations of d6-phenol in the listed samples to be underreported by 63% -71%. As there are no adopted guideline values for the listed analytes, the under and overreporting is not expected to affect interpretation of results against guidelines. However, this potential for over and underreporting should be taken into consideration when using the data quantitatively.

Table H: Summary of QA/QC Laboratory Surrogate Spike Recovery Non-Compliances

Analyte	Lab report and sample Location reported recovery	Control Limit	Comment
2-fluorophenol (surrogate) (SVOC)	PE184085 (R0)/ME373574 (R0) • T26-MW08 - 132%	40-130%	Higher than recovery control limit.
d6-phenol (surrogate) (SVOC)	PE184085 (R0)/ME373574 (R0) • A19-BH-01 - 37% PE184086 (R0)/ME373576 (R0) • SW01-UP - 35% • SW02-UP - 33% • SW02-DOWN - 36% • SW04-UP - 35% • SW04-DOWN - 37% • SW06-UP - 34% • SW03-UP - 34% • SW03-DOWN-29%	40-130%	Lower than recovery control limit
d14-p-terphenyl (surrogate)	PE184125 (R1)/ME373477 (R0) • T25-MW15 - 131%	40-130%	Higher than recovery control limit
2,4,6 - tribromophenol (surrogate)	PE184202 (R0)/ME373705 (R0) • T25-MW30 - 153% • THEXT21-GW04 - 148% • T25-MW04 - 142% • DUP03 - 158%	40-130%	Higher than recovery control limit
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	PE184089 (R0)/ • SD04-DOWN - 132% • SD05-DOWN - 162% • SD07-DOWN - 134%	10-130%	Higher than recovery control limit.

Analyte	Lab report and sample Location reported recovery	Control Limit	Comment
(13C8-PFOA) Isotopically Labelled Internal Recovery Standard	PE184089 (R0)/ - SD02-DOWN - 192% - SD03-DOWN - 247% - SD06-DOWN - 189% - SD07-DOWN - 209%	10-150%	Higher than recovery control limit.
(D3-N-MeFOA) Isotopically Labelled Internal Recovery Standard	PE184089 (R0)/ - SD01-DOWN - 181% - SD05-DOWN - 251%	10-150%	Higher than recovery control limit.
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	PE184089 (R0)/ SD04-DOWN - 179%	10-150%	Higher than recovery control limit.
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	PE184089 (R0)/ SD04-DOWN - 160%	10-150%	Higher than recovery control limit.

Laboratory Matrix Spikes

Matrix spike recoveries (where reported) were within control limits with the following exceptions outlined in Table I.

Matrix spike recoveries were not determined for dissolved aluminium, barium, iron, manganese, total aluminium, sulfate as SO₄, calcium (in soil), magnesium (in soil), phosphorus (in soil) and zinc (in soil) in the listed samples and lab report as the background concentrations of the analyte exceeded the spike level. These non-determinations do not reflect method bias and do not affect data interpretation. The accuracy of the data can be assessed as acceptable based on the method blanks, laboratory control spikes (LCS) and surrogate spike recoveries (which were reported within control limits for the above listed analytes). The potential exists for concentrations of dissolved aluminium, barium, iron, manganese and total aluminium to be biased high or low for the listed sample (dissolved) and laboratory batch (total aluminium).

Table I: Summary of QA/QC Laboratory Matrix Spike Recovery Non-Compliances

Analyte	Lab report and sample Location reported recovery	Comment
Trace Metals (Dissolved in water) Aluminium	PE184085 (R0)/ME373574(R0) A19-BH-01 - 1232%	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
Trace Metals (Dissolved in water) Barium	PE184085 (R0)/ME373574(R0) A19-BH-01 - 75%	
Trace Metals (Dissolved in water) Iron	PE184085 (R0)/ME373574(R0) A19-BH-01 - -648%	
Trace Metals (Dissolved in water) Manganese	PE184085 (R0)/ME373574(R0) A19-BH-01 - -384%	
Trace metals (Total in water) Total Aluminium	PE184085 (R0)/ME373574(R0) - 179%	

Analyte	Lab report and sample Location reported recovery	Comment
Sulfate in water	PE184202 (R0)/ME373705 (R0) T25-MW01 - 220%	
Total Recoverable Elements in Soil - Calcium	PE184089 (R0)/ SD04-DOWN - 149%	
Total Recoverable Elements in Soil - Magnesium	PE184089 (R0)/ SD04-DOWN - 144%	
Total Recoverable Elements in Soil - Phosphorous	PE184089 (R0)/ SD04-DOWN - 134%	
Total Recoverable Elements in Soil - Zinc	PE184089 (R0)/ SD04-DOWN - 136%	

Laboratory Duplicates

Laboratory duplicate samples were within control limits except for Sulfate (SO₄) in primary lab report (PE184202) (sample T25-MW01) which reported an RPD of 15%, matching the determined criterion of 15%. Zinc in laboratory batch PE184089 (sample SD01-DOWN) reported an RPD of 55%, which is higher than the determined criterion of 36%. The accuracy of the data can be assessed as acceptable based on the method blanks, laboratory control spikes (LCS) surrogate spike recoveries (which were reported within control limits for the above listed analytes) and available laboratory duplicates for the same analyte that were within control limits.

Laboratory Matrix Spike Duplicates

Laboratory duplicate samples were within control limits except for calcium, magnesium and phosphorous, in primary lab report (PE184089) (sample SD01-DOWN) which reported an RPDs of 70%, 74%, and 40% respectively, above the determined criteria for each. The accuracy of the data can be assessed as acceptable based on the method blanks, laboratory control spikes (LCS) surrogate spike recoveries (which were reported within control limits for the above listed analytes) and available laboratory spike duplicates for the same analyte that were within control limits.

6.1.1 Analysis Holding Times

Analysis for all samples were completed within recommended holding times.

6.1.2 Laboratory Limits of Reporting

All analytical results tables presented at the rear of the report outline the LORs of each analyte for comparison against the lowest adopted guideline criteria. All LORs remained within applicable assessment criteria.

6.2 Field QA/QC Data

A summary of QA/QC field samples collected is presented in Table G and QA/QC data is presented within Tables 6, 7 and 8.

6.2.1 Field Duplicates and Triplicates

Groundwater

Two duplicate groundwater samples (DUP02 and DUP03) and two triplicate groundwater samples (TRIP02 and TRIP03) were analysed for the same analytical suite as the primary samples including metals, inorganics, metals, BTEX, solvents, TRH, TPH, PAH, SVOC/VOCs, and PFAS (as per NEPM [2013] and PFAS NEMP [2025] requirements; 1 QAQC sample per 10 primary samples).

For assessment purposes, where the RPD exceeded 30%, the highest value obtained (original or duplicate/triplicate) was used for assessment purposes. All analytical tests performed on the duplicate and triplicate soil samples had an RPD within 30% of the original samples, with the exception of the following replicate sets (higher concentration shown in **bold**), indicating the sampling and analysis procedures applied by WEPL and the laboratories (SGS Australia and ALS) were generally reproducible:

- Kjeldahl Nitrogen Total - T25-MW15 (0.75 mg/L)/**TRIP02 (1.4 mg/L)** with an RPD value of 60%.
- Arsenic (filtered) - THEXT21-GW04 (<LOR)/**TRIP03 (0.002 mg/L)** with an RPD of 120%.
- 6:2 Fluorotelomer Sulfonate (6:2 FTS) - **THEXT21-GW04 (0.0025 mg/L)**/DUP03 (0.0008 mg/L) with an RPD of 103%.

As there are no adopted guideline values for Kjeldahl Nitrogen Total and 6:2 Fluorotelomer Sulfonate (6:2 FTS) the elevated RPD is not expected to affect interpretation of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively.

Application of the highest reported concentration of arsenic (filtered) above does exceed the ANZG Freshwater Toxicant DGV LOSP 99% (speciated guideline for AsV) (0.0008 mg/L); which is consistent with other arsenic in groundwater concentrations reported across the Site; therefore the elevated RPD is not considered to affect the interpretation of results against guidelines. However, the elevated RPD should be taken into consideration when using the data quantitatively.

Surface Water

A duplicate surface water sample (DUP01) and a triplicate surface water sample (TRIP01) was analysed for the same analysis suite as the primary sample including metals, inorganics, metals, BTEX, solvents, TRH, TPH, PAH, SVOC/VOCs, and PFAS (as per NEPM [2013] and PFAS NEMP [2025] requirements; 1 QAQC sample per 10 primary samples).

For assessment purposes, where the RPD exceeded 30%, the highest value obtained (original or duplicate/triplicate) was used for assessment purposes. All analytical tests performed on the duplicate and

triplicate soil samples had an RPD within 30% of the original samples, with the exception of the following replicate sets (higher concentration shown in bold), indicating the sampling and analysis procedures applied by WEPL and the laboratories (SGS Australia and ALS) were generally reproducible:

- Aluminium (total) - **SW03-DOWN (12 mg/L)**/DUP01 (0.81 mg/L) with an RPD value of 175%.
- Copper (filtered) - SW03-DOWN (0.0010 mg/L)/**DUP01 (0.0024 mg/L)** with an RPD value of 82%.
- Iron (total) - **SW03-DOWN (2.9 mg/L)**/DUP01 (0.38 mg/L) with an RPD value of 154%.
- Manganese (filtered):
 - o **SW03-DOWN (0.002 mg/L)**/DUP01 (<LOR) with an RPD value of 67%.
 - o **SW03-DOWN (0.002 mg/L)**/TRIP01 (<LOR) with an RPD value of 67%.
- Perfluorohexanoic acid (PFHxA):
 - o SW03-DOWN (0.0017 mg/L)/**DUP01 (0.0032 mg/L)** with an RPD value of 61%.
 - o SW03-DOWN (0.0017 mg/L)/**TRI01 (0.003 mg/L)** with an RPD value of 55%.
- Perfluoropentanoic acid (PFPeA) - SW03-DOWN (<LOR)/**TRIP01 (0.003 mg/L)** with an RPD value of 143%.
- Perfluoroheptanoic acid (PFHpA) - SW03-DOWN (0.0006 mg/L)/DUP01 (0.0013 mg/L) with an RPD value of 74%.
- Perfluorooctanoic acid (PFOA) - SW03-DOWN (<LOR)/**DUP01 (0.0016 mg/L)** with an RPD value of 156%.
- Perfluorohexane sulfonic acid (PFHxS):
 - o SW03-DOWN (<LOR)/**DUP01 (0.0026 mg/L)** with an RPD value of 156%.
 - o SW03-DOWN (<LOR)/**TRIP01 (0.004 mg/L)** with an RPD value of 156%.
- Perfluorooctane sulfonic acid (PFOS):
 - o SW03-DOWN (0.0003 mg/L)/**DUP01 (0.0034 mg/L)** with an RPD value of 168%.
 - o SW03-DOWN (0.0003 mg/L)/**TRIP01 (0.006 mg/L)** with an RPD value of 156%.

As there are no established and adopted guideline values for PFHpA, PFPeA, PFHxA and iron (total) the elevated RPD is not expected to affect interpretation of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively.

For PFOS analysis, as the results may have a likelihood of being biased high by up to 168%, standard calculation of $0.5 \times \text{EQL value (0.0001)} + 168\%$ was applied. Calculations show that the concentrations presented <LOR for PFOS in surface water may tip over the PFAS NEMP (2025) freshwater 99% species protection value (0.00023 mg/L), i.e. the calculated concentration (0.00025 mg/L) marginally exceeds the freshwater 99% species protection criteria (0.00023 mg/L). The potential biased reported concentrations for PFOS should be taken into consideration when interpreting concentrations close to the LOR or PFAS NEMP (2025) freshwater 99% species protection value (0.00023 mg/L).

As all concentrations of PFHxS, PFOA, aluminium (total), copper (filtered), and manganese (filtered) are reported well above and/or below the adopted guidelines, the elevated RPD is not considered to affect the interpretation of results against guidelines. However, the elevated RPD should be taken into consideration when using the data quantitatively.

Sediment

Field inter-and intra-laboratory replicate samples were not collected. The precision of the data can be based as acceptable based on laboratory duplicate samples which were reported at the required frequency and within control limits.

6.2.2 Field, Transport and Rinsate Blanks

Field, transport and rinsate blanks reported all concentrations analysed below the laboratory LOR. Therefore, there is a minimal possibility of cross contamination for the samples collected as part of this program.

6.3 QA/QC Summary

Based on a detailed review of the QA/QC information, WEPL considers that the data is reliable and the integrity of the data is suitable for use to provide an understanding of groundwater, surface water and sediment quality on-site. The QA/QC discrepancies noted above are considered minor and unlikely to impact the overall interpretation of water and sediment quality on-site.

7. Conclusions

The key findings of the ambient groundwater, surface water and sediment assessment of the Site are summarised as follows:

- No visual or olfactory signs of potential contamination were observed during the field work such as odour, sheen or debris in sediment or water.
- Reported analytical data for all samples was compliant with the adopted ecological and human health assessment criteria excluding the following results:
 - o Some groundwater locations reported concentrations above adopted ecological assessment criteria for aluminium, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, ammonia (as N) and nitrate (as N).
 - o Some groundwater locations reported concentrations above adopted human health assessment criteria for aluminium, iron, chloride and ammonia (as N).
 - o Two groundwater locations reported concentrations of PFOS above the PFAS NEMP (2025) Freshwater 99% species protection criterion.
 - o Some groundwater locations reported concentrations above adopted ecological assessment criteria for aluminium, arsenic, cadmium, chromium, copper, lead, zinc and nitrate (as N).
 - o Five surface water locations reported concentrations of PFOS the PFAS NEMP (2025) Freshwater 99% species protection criterion.
 - o Some sediment locations reported concentrations above adopted ecological criteria for nickel, C6-C36 Fraction, F2 (>C10-C16 minus naphthalene) and F3 (C16-C34 Fraction).
 - o One sediment location reported a concentration of PFOS above the PFAS NEMP (2025) Interim ecological indirect exposure criterion for all land uses.
 - o One sediment location reported a Net Acidity concentration that was a minor exceedance of the adopted ASS (DER, 2025) criterion.

8. References

- Australian and New Zealand Governments (ANZG). (2025). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. A Joint Initiative of the Australian and New Zealand Governments in Partnership with the Australian State and Territory Governments.
- Aurora Environmental (Aurora). (2022). *Tonkin Highway Extension Project Risk Assessment for Reuse of Material From Forrestfield Airport Link*. 8 February 2022.
- Department of Environment Regulation (DER). (2015). *Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes*. Acid Sulfate Soils Guideline Series, Department of Environmental Regulation, June 2015.
- Department of Planning, Lands and Heritage (DPLH). (2025a). *Local Planning Scheme – Zones and Reserves (DPLH-071): Shire of Serpentine Jarrahdale Town Planning Scheme No.3*. Retrieved on 1 August 2025 from <https://catalogue.data.wa.gov.au/dataset/local-planning-scheme-zones-and-reserves-dop-025>.
- Department of Planning, Lands and Heritage (DPLH). (2025b). *Region Scheme - Zones and Reserves (DPLH-023)*. Retrieved on 1 August 2025 from <https://catalogue.data.wa.gov.au/dataset/region-scheme-zones-and-reserves-dop-072>.
- Department of Water and Environmental Regulation (DWER). (2021). *Assessment and Management of Contaminated Sites*. Government of Western Australia.
- Government of Western Australia Department of Health (DoH) (2014), advice for Non-Potable Groundwater Use guidelines - as referenced in the DWER (2021) Assessment and Management of Contaminated Sites (listed above).
- Heads of EPA Australia and New Zealand (HEPA). (2025). *PFAS National Environmental Management Plan Version 3.0*. Heads of EPA Australia and New Zealand 2025. CC BY 4.0.
- National Environment Protection Council (NEPC). (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999*, as Amended 2013. National Environment Protection Council. <https://www.legislation.gov.au/Details/F2013C00288>.
- National Health and Medical Research Council (NHMRC). (2008). *Guidelines for Managing Risks in Recreational Waters*. National Health and Medical Research Council, Canberra, February 2008.
- Senversa. (2021). *Preliminary Site Investigation, Tonkin Highway Extension Project*. 6 December 2021.
- Western Environmental (WEPL). (2025). *Soil Baseline Assessment, Tonkin Highway Extension*. 15 August 2025.

Figures

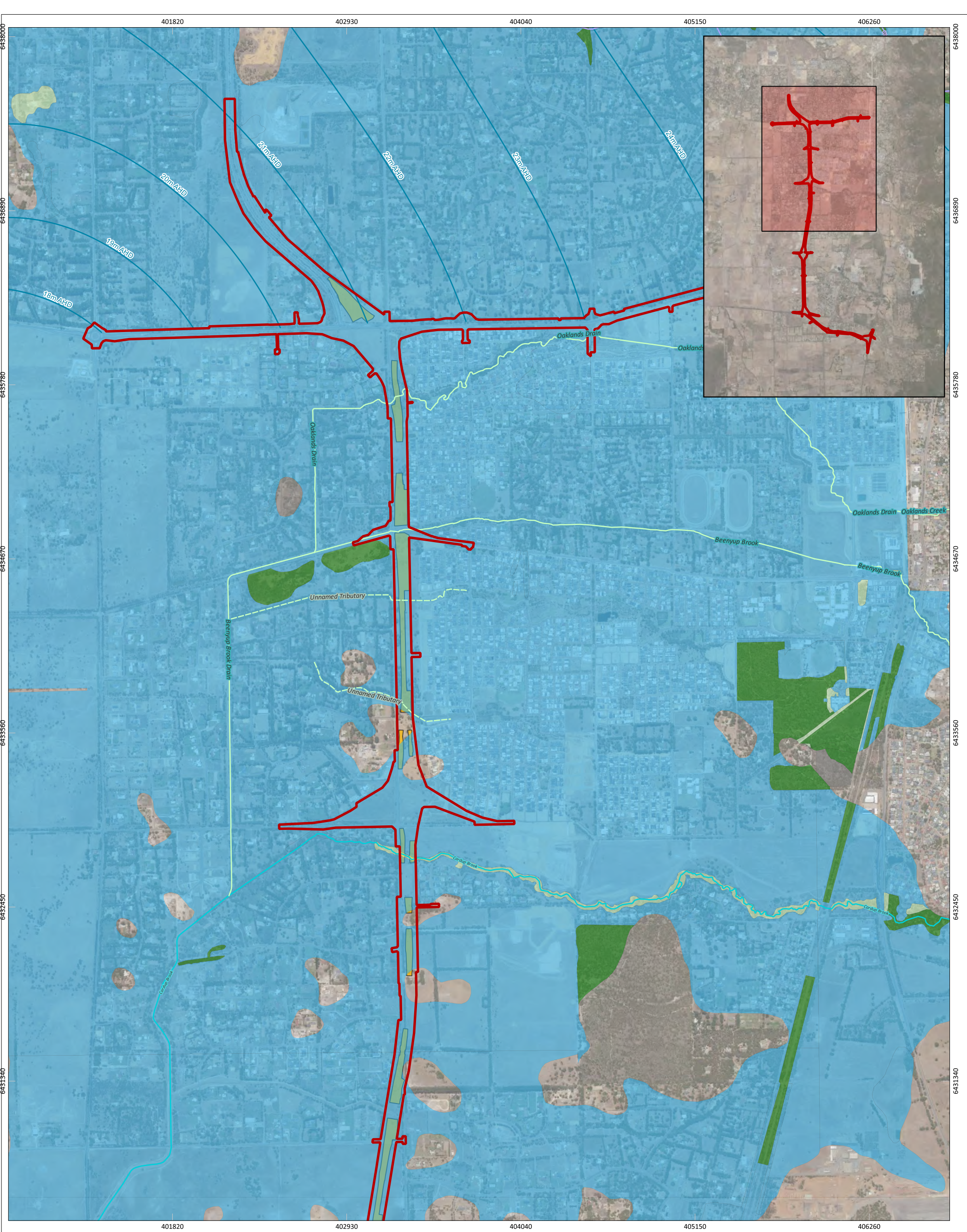


Figure 2a: Surface Water Features and Geomorphic Wetlands

0

200

400

600

800 m

N

SCALE

1:22,200

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

LANDGATE AERIAL IMAGERY NOW

PROJECT/REPORT NAME

Tonkin Highway Extension: Groundwater, Surface Water and Sediment Baseline Assessment

Tonkin Highway Extension Area

CLIENT

Tonkin Highway Extension Alliance

PROJECT NUMBER

P25.045

VERSION

0

DRAWN BY / REVIEWED BY

MD/TM

DATE

11/9/2025

Site Boundary

ENVIRO FAL Material Locations

Geomorphic Wetlands, Swan

Coastal Plain (DBCA-019)

Conservation

Multiple Use

Not Applicable

Resource Enhancement

Hydrography Linear (Hierarchy) (DWER-031)

Minor River

Minor Tributary

Insignificant Tributary

Infrastructure

Unnamed Tributary

Gnangara Jandakot Water Table

Elevation (Contours) – 2019 Max (DWER-100)

No	Description	Drawn	Approved	Date
A	Original issue	MD	TM	11/9/2025

NOTES:
Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

WESTERN ENVIRONMENTAL

Western Environmental Pty Ltd

08 6244 2310 | enquiries@western.com.au

Level 3/25 Prowse St, West Perth WA 6005

western.com.au

G:\GIS\Project Data\2025\P25.045\3. Projects\2. Groundwater, Surface Water and Sediment Baseline Assessment\P25.045.qgz

COPYRIGHT: This document is and shall remain the property of The Client. This document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement. The Client does not hold any responsibility for the misuse of this document. Designed and Automated by AC

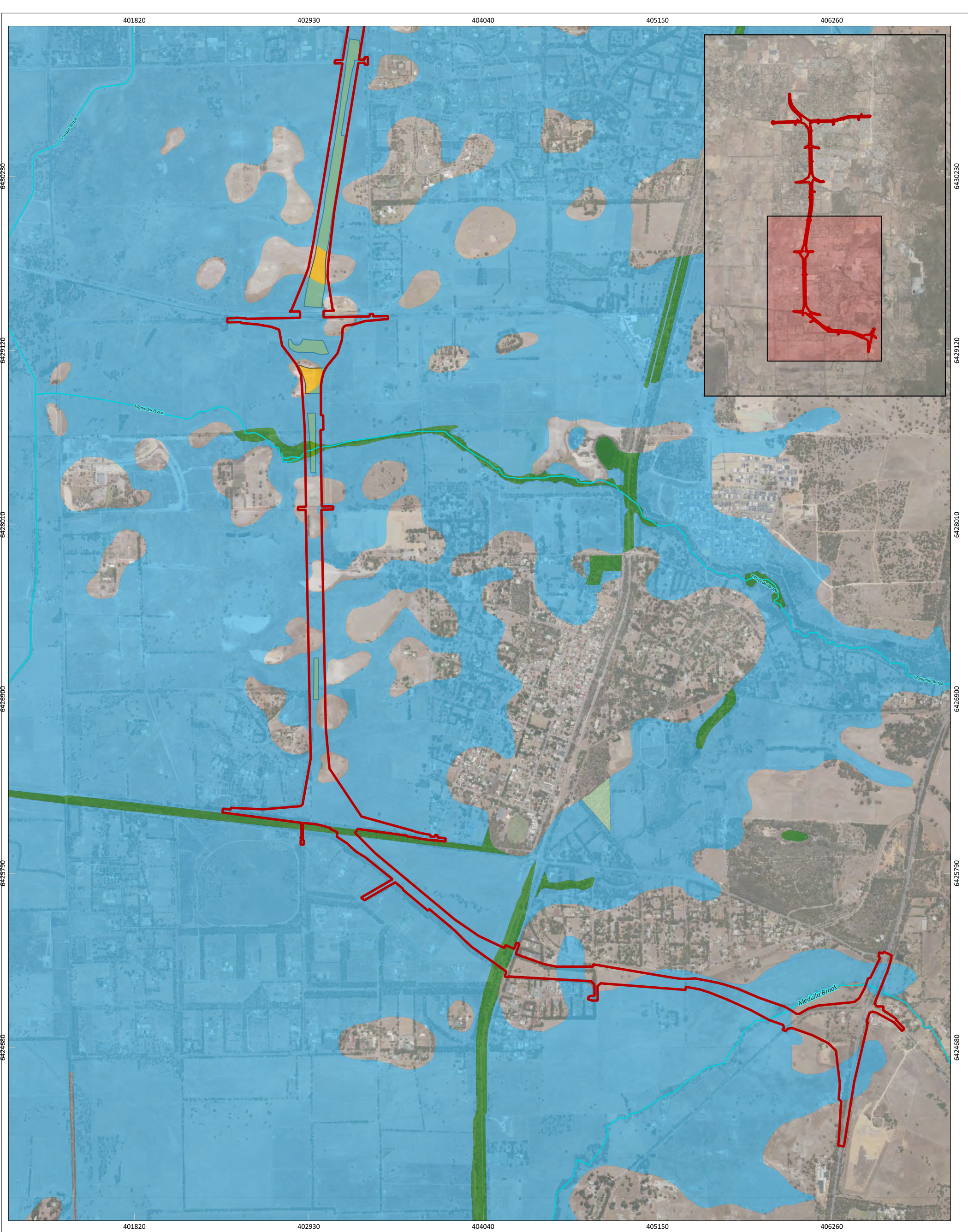


Figure 2b: Surface Water Features and Geomorphic Wetlands

0

200

400

600

800 m

N

SCALE

1:22,200

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

LANDGATE AERIAL IMAGERY NOW

PROJECT/REPORT NAME

Tonkin Highway Extension: Groundwater, Surface Water and Sediment Baseline Assessment

Tonkin Highway Extension Area

CLIENT

Tonkin Highway Extension Alliance

PROJECT NUMBER

P25.045

VERSION

0

DRAWN BY / REVIEWED BY

MD/TM

DATE

11/9/2025

Legend

Site Boundary

ENVIRO FAL Material Locations

Geomorphic Wetlands, Swan

Coastal Plain (DBCA-019)

Conservation

Multiple Use

Resource Enhancement

Hydrography Linear (Hierarchy) (DWER-031)

Major Tributary

Minor Tributary

No	Description	Drawn	Approved	Date
A	Original issue	MD	TM	11/9/2025

NOTES:

Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

WESTERN ENVIRONMENTAL

Western Environmental Pty Ltd

08 6244 2310 | enquiries@western.com.au

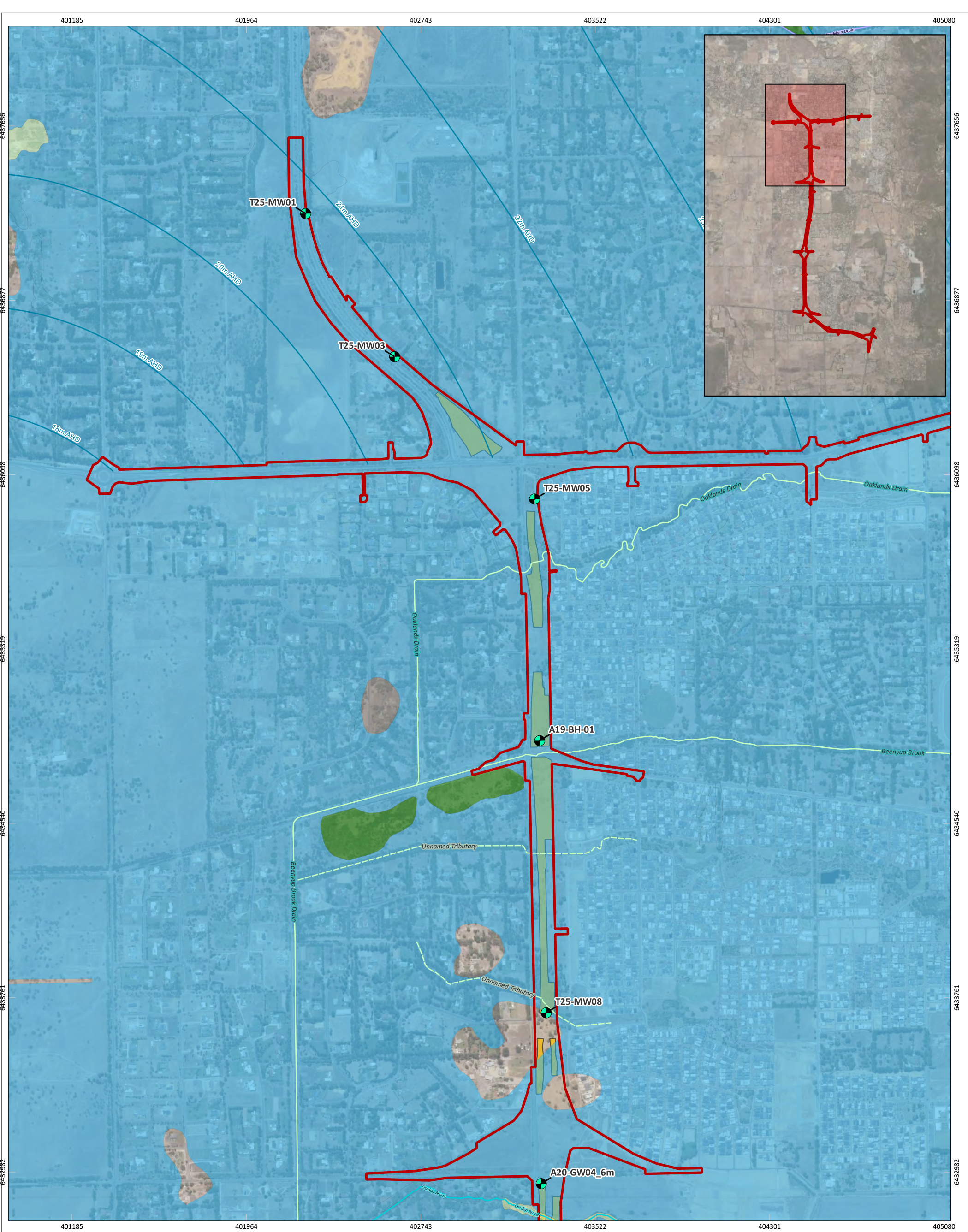
Level 3/25 Prowse St, West Perth WA 6005

western.com.au

G:\GIS\Project Data\2025\P25.045\3. Projects\2. Groundwater, Surface Water and Sediment Baseline Assessment\P25.045.qgz

COPYRIGHT: This document is and shall remain the property of The Client. This document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement. The Client does not hold any responsibility for the misuse of this document

Designed and Automated by AC



0100200300400m

N

SCALE

1:15,574

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

LANDGATE AERIAL IMAGERY NOW

PROJECT/REPORT NAME

Tonkin Highway Extension: Groundwater, Surface Water and Sediment Baseline Assessment

CLIENT

Tonkin Highway Extension Alliance

PROJECT NUMBER

P25.045

VERSION

0

DRAWN BY / REVIEWED BY

MD/TM

DATE

11/9/2025

Legend

Site Boundary

ENVIRO FAL Material Locations

Groundwater Wells

Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)

Conservation

Multiple Use

Not Applicable

Resource Enhancement

Gnangara Jandakot Water Table Elevation (Contours) – 2019 Max (DWER-100)

Hydrography Linear (Hierarchy) (DWER-031)

Minor River

Minor Tributary

Insignificant Tributary

Unnamed Tributary

No	Description	Drawn	Approved	Date
A	Original issue	MD	TM	11/9/2025

NOTES:
Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

WESTERN ENVIRONMENTAL

Western Environmental Pty Ltd

08 6244 2310 | enquiries@western.com.au

Level 3/25 Prowse St, West Perth WA 6005

western.com.au

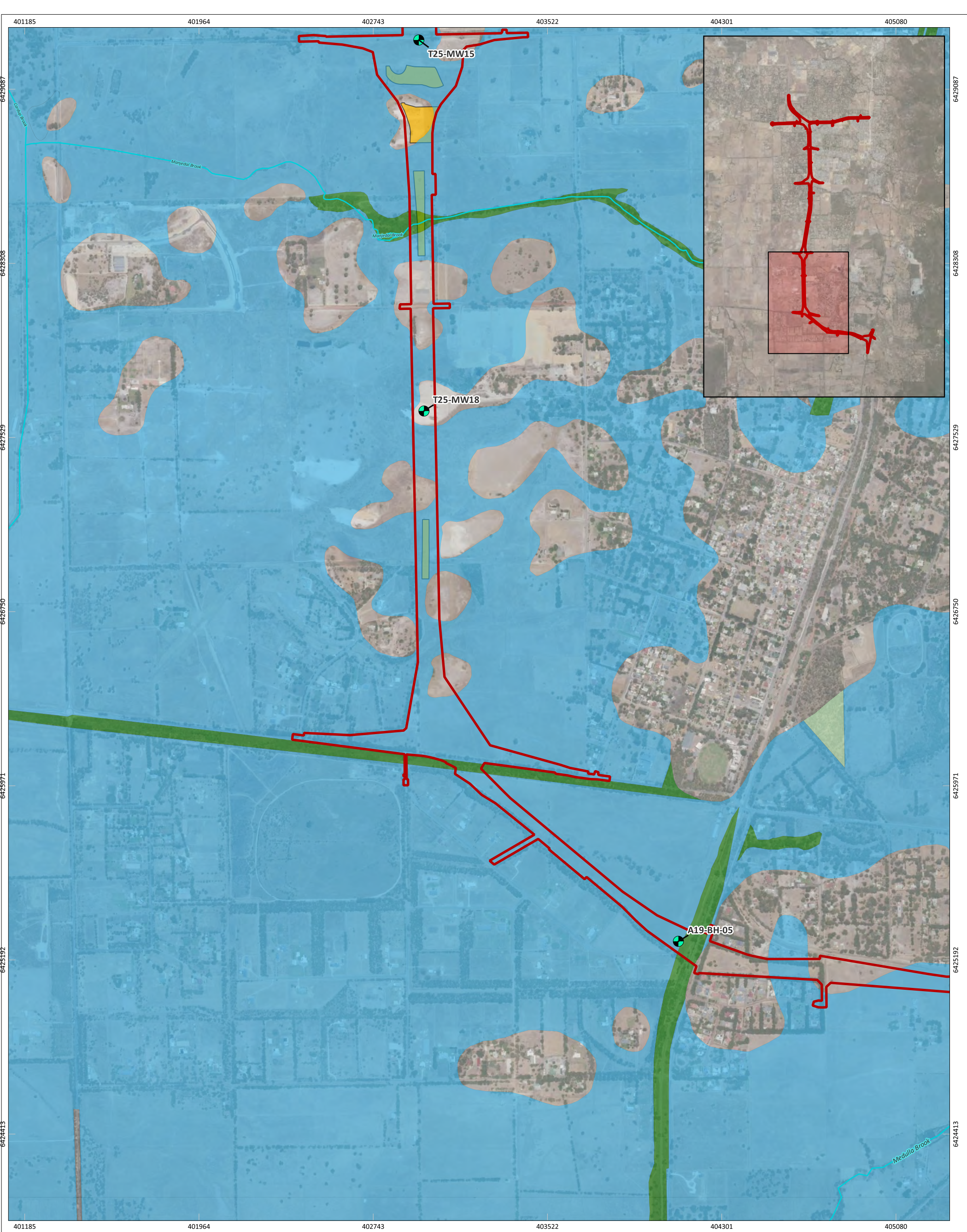


Figure 3c: Groundwater Sample Locations

0100200300400m

N

SCALE

1:15,574

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

LANDGATE AERIAL IMAGERY NOW

PROJECT/REPORT NAME

Tonkin Highway Extension: Groundwater, Surface Water and Sediment Baseline Assessment

CLIENT

Tonkin Highway Extension Alliance

PROJECT NUMBER

P25.045

VERSION

0

DRAWN BY / REVIEWED BY

MD/TM

DATE

11/9/2025

Legend

Site Boundary

ENVIRO FAL Material Locations

Groundwater Wells

Multiple Use

Resource Enhancement

Hydrography Linear (Hierarchy) (DWER-031)

Major Tributary

Minor Tributary

Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)

Conservation

No	Description	Drawn	Approved	Date
A	Original issue	MD	TM	11/9/2025

NOTES:
Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

WESTERN ENVIRONMENTAL

Western Environmental Pty Ltd

08 6244 2310 | enquiries@western.com.au

Level 3/25 Prowse St, West Perth WA 6005

western.com.au

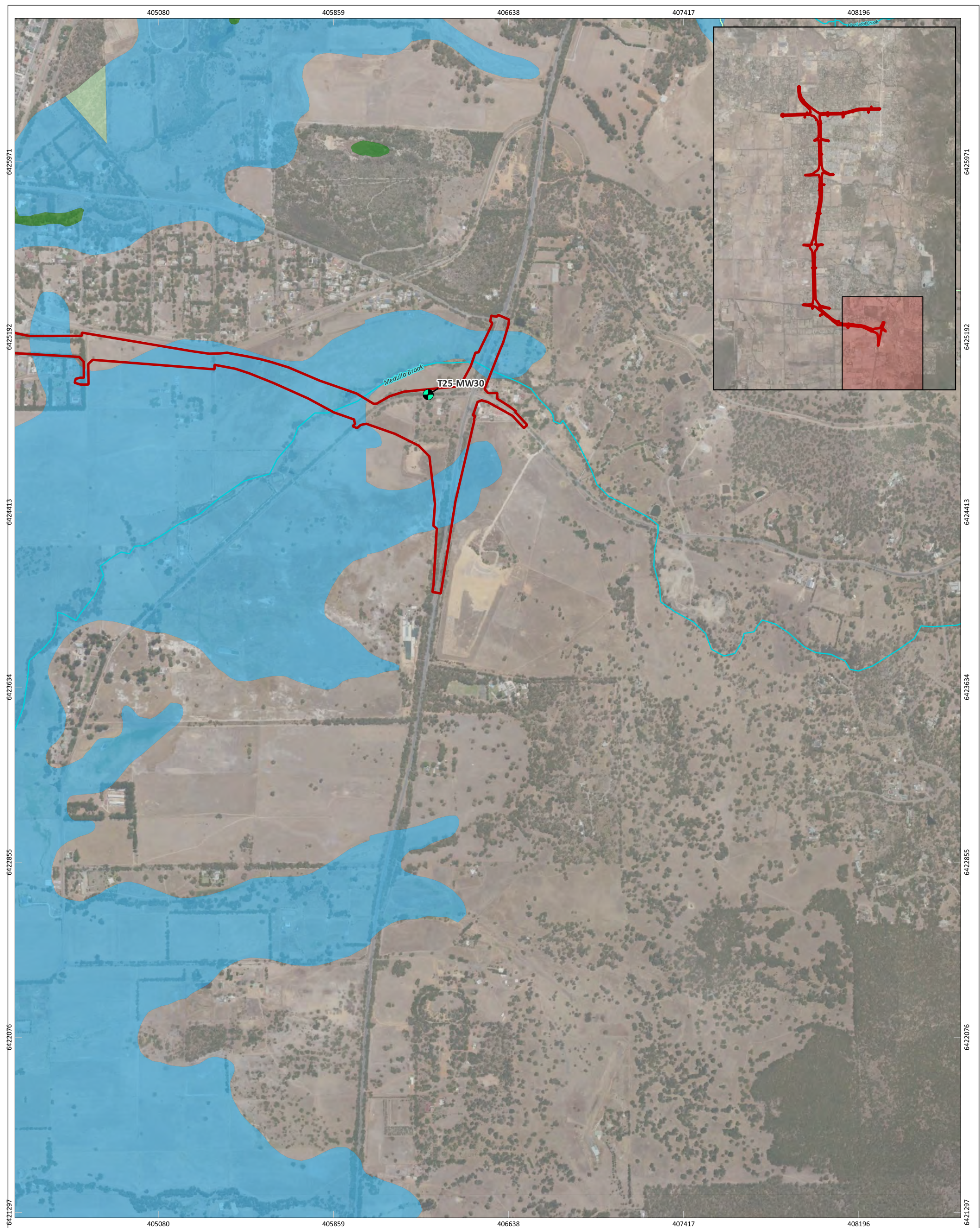


Figure 3d: Groundwater Sample Locations

<

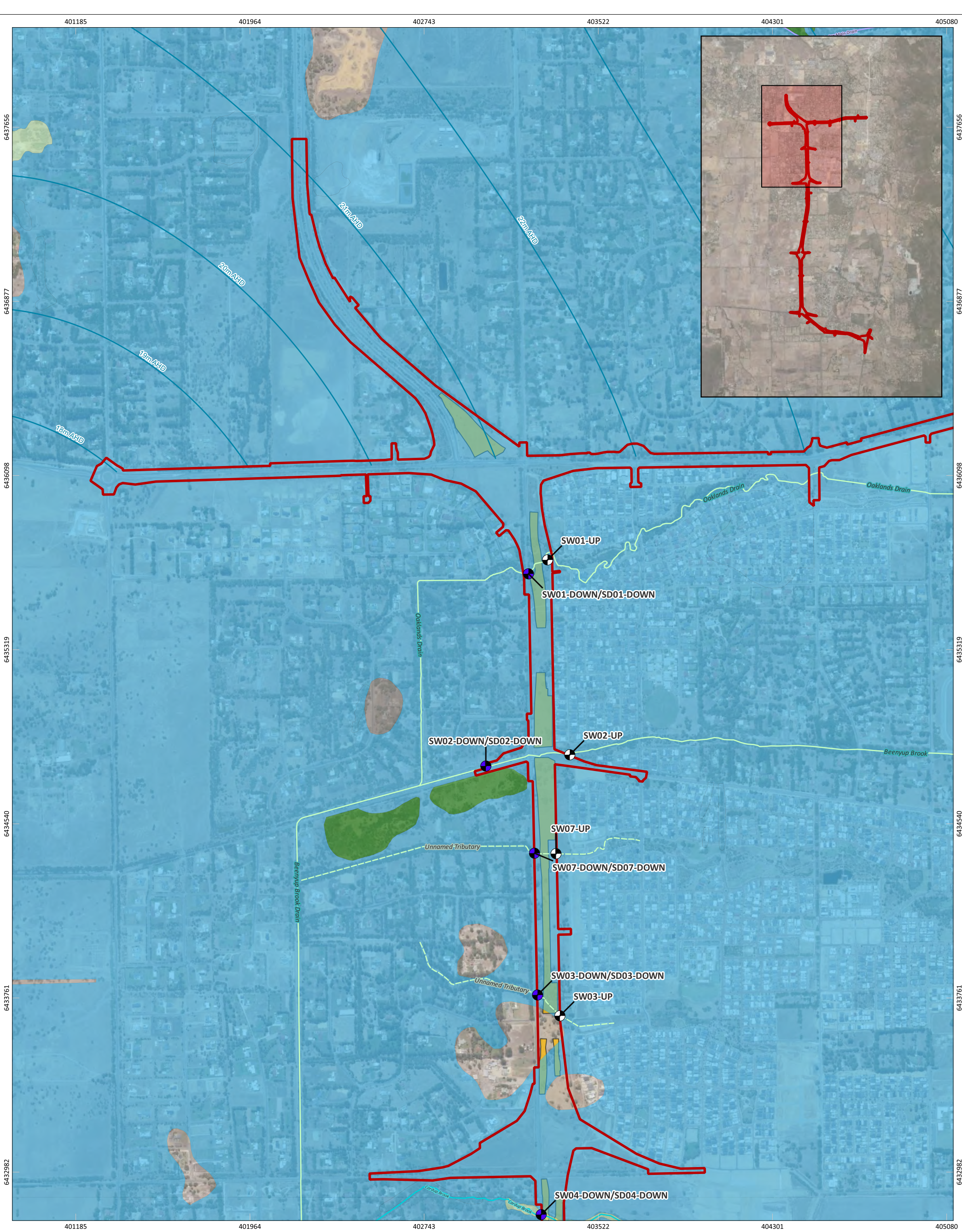


Figure 4a: Surface Water and Sediment Sample Locations

0100200300400m

N

SCALE

1:15,574

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

LANDGATE AERIAL IMAGERY NOW

PROJECT/REPORT NAME

Tonkin Highway Extension: Groundwater, Surface Water and Sediment Baseline Assessment

Tonkin Highway Extension Area

CLIENT

Tonkin Highway Extension Alliance

PROJECT NUMBER

P25.045

VERSION

0

DRAWN BY / REVIEWED BY

MD/TM

DATE

11/9/2025

Site Boundary

ENVIRO FAL Material Locations

Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)

Conservation

Multiple Use

Not Applicable

Resource Enhancement

Surface Water Sample Only Locations

Surface Water and Sediment Sample Locations

Ghangara Jandakot Water Table Elevation (Contours) – 2019 Max (DWER-100)

Hydrography Linear (Hierarchy) (DWER-031)

Minor River

Minor Tributary

Insignificant Tributary

Unnamed Tributary

No	Description	Drawn	Approved	Date
A	Original issue	MD	TM	11/9/2025

NOTES:
Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

WESTERN ENVIRONMENTAL

Western Environmental Pty Ltd

08 6244 2310 | enquiries@western.com.au

Level 3/25 Prowse St, West Perth WA 6005

western.com.au

G:\GIS\Project Data\2025\P25.045\3. Projects\2. Groundwater, Surface Water and Sediment Baseline Assessment\P25.045.qgz

COPYRIGHT: This document is and shall remain the property of The Client. This document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement. The Client does not hold any responsibility for the misuse of this document. Designed and Automated by AC

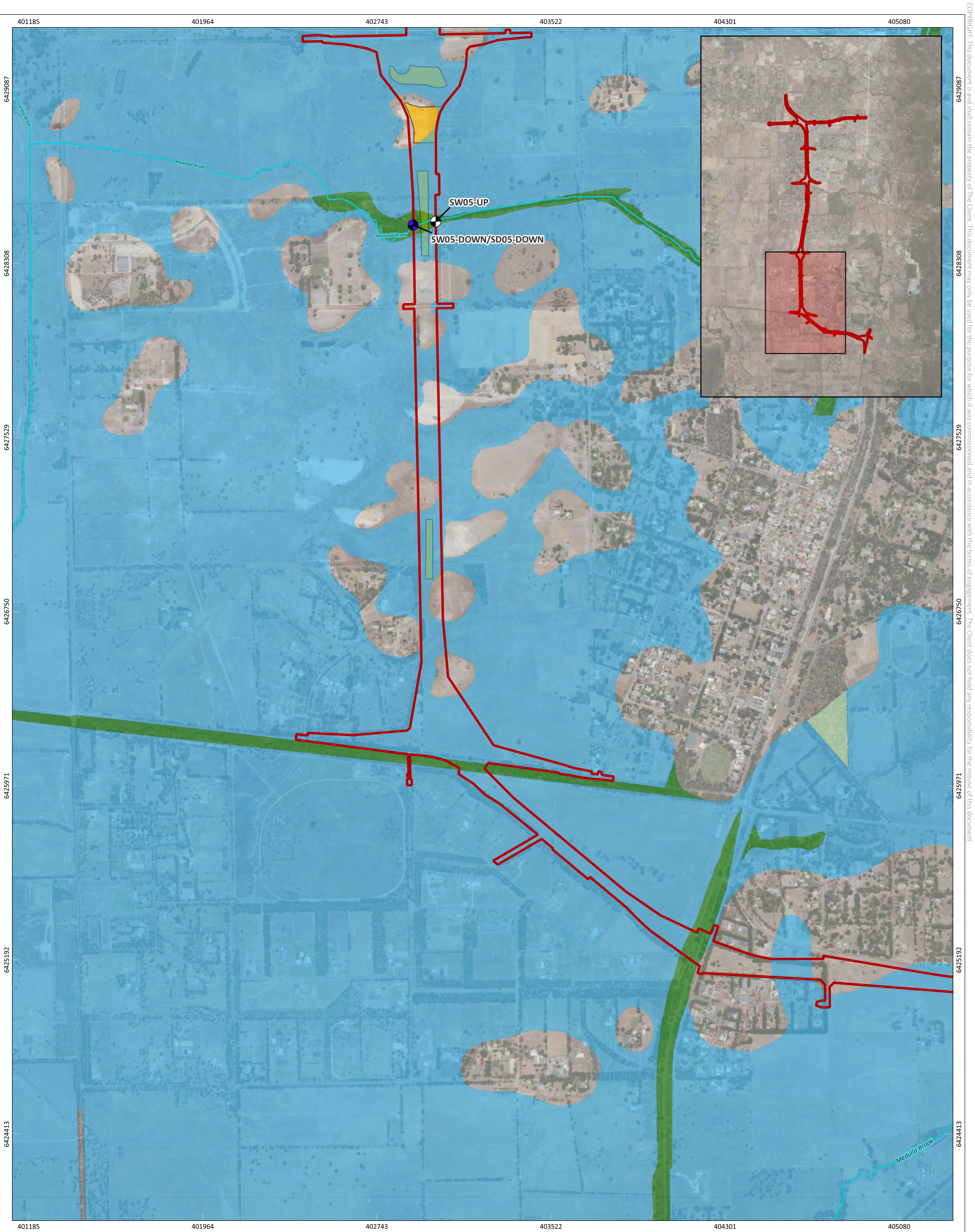


Figure 4c: Surface Water and Sediment Sample Locations

0100200300400m

N

SCALE

1:15,574

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

LANDGATE AERIAL IMAGERY NOW

PROJECT/REPORT NAME

Tonkin Highway Extension: Groundwater, Surface Water and Sediment Baseline Assessment

Tonkin Highway Extension Area

CLIENT

Tonkin Highway Extension Alliance

PROJECT NUMBER

P25.045

VERSION

0

DRAWN BY / REVIEWED BY

MD/TM

DATE

11/9/2025

Legend

Site Boundary

ENVIRO FAL Material Locations

Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)

Conservation

Multiple Use

Resource Enhancement

Surface Water Sample Only Locations

Surface Water and Sediment Sample Locations

Hydrography Linear (Hierarchy) (DWER-031)

Major Tributary

Minor Tributary

No

Description

Drawn

Approved

Date

A

Original issue

MD

TM

11/9/2025

NOTES:

Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

WESTERN

ENVIRONMENTAL

Western Environmental Pty Ltd

08 6244 2310 | enquiries@westernv.com.au

Level 3/25 Prowse St, West Perth WA 6005

westernv.com.au

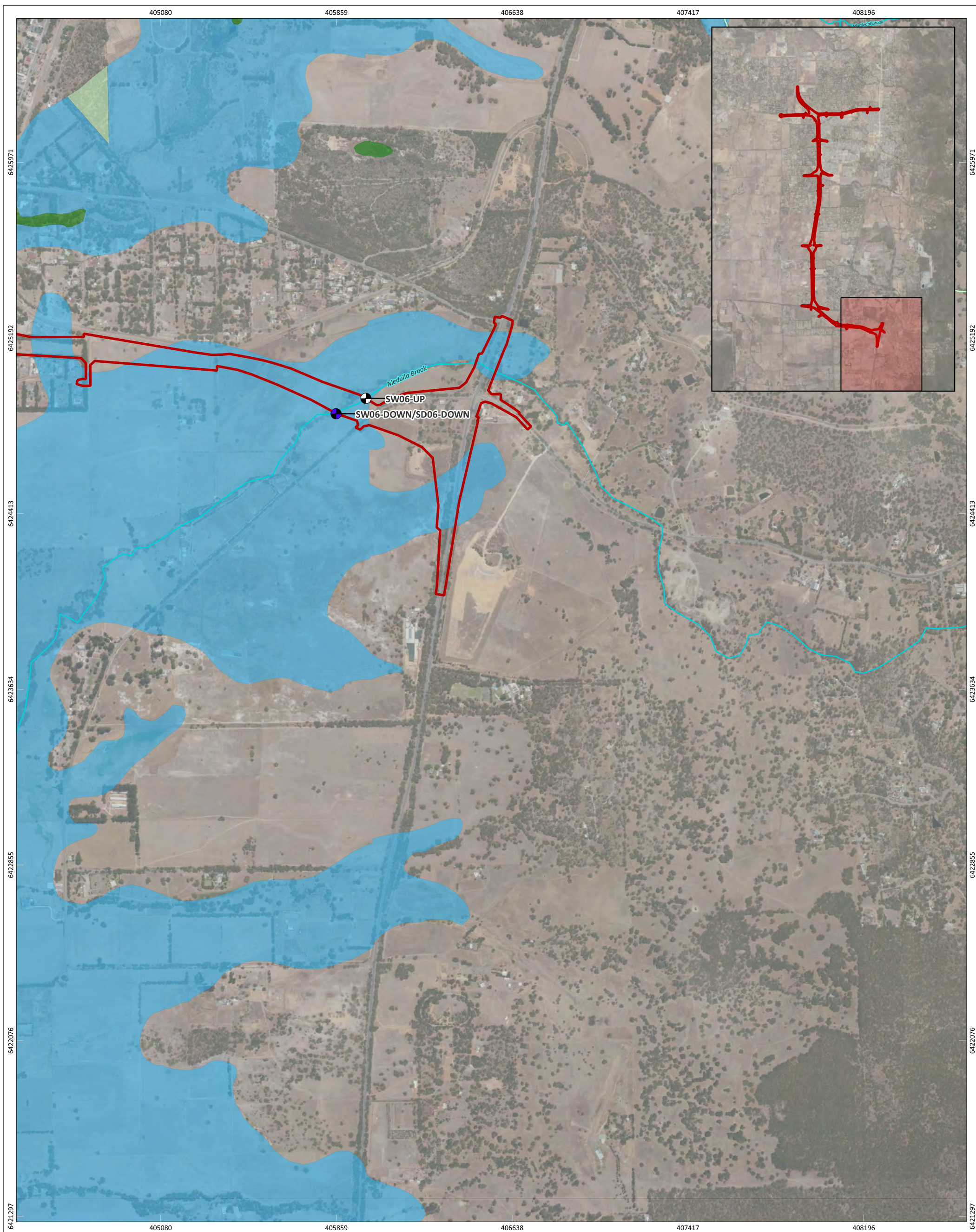


Figure 4d: Surface Water and Sediment Sample Locations

		PROJECT/REPORT NAME Tonkin Highway Extension: Groundwater, Surface Water and Sediment Baseline Assessment Tonkin Highway Extension Area		Legend Site Boundary Geomorphic Wetlands, Swan Coastal Plain (DBCA-019) Conservation Multiple Use Resource Enhancement Hydrography Linear (Hierarchy) (DWER-031) — Major Tributary — Minor Tributary — Insignificant Tributary ● Surface Water Sample Only Locations ● Surface Water and Sediment Sample Locations	
SCALE 1:15,574	SHEET SIZE A3 COLOUR	CLIENT Tonkin Highway Extension Alliance			
COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 50		PROJECT NUMBER P25.045	VERSION 0		
DATA SOURCE LANDGATE AERIAL IMAGERY NOW		DRAWN BY / REVIEWED BY MD/TM	DATE 11/9/2025		

No	Description	Drawn	Approved	Date
A	Original issue	MD	TM	11/9/2025

NOTES:

Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.

Western Environmental Pty Ltd
 08 6244 2310 | enquiries@westernv.com.au
 Level 3/25 Prowse St, West Perth WA 6005
 westernv.com.au

Tables

Table 1
Groundwater Quality Field Results

Date	Well Number	Depth to Water (DTW) (m btoc)	Depth to Bottom (m btoc)	pH	ORP (mV)	EC μ S/cm	TDS (mg/L)	DO (mg/L)	Temperature (°C)	Observations
3/07/2025	A19-BH01	1.36	2.362	5.37	78.3	655	513.5	4.93	16.5	Pale yellow, low turbidity, no odour
3/07/2025	T25-MW08	1.461	2.677	6.05	149.2	2099	1200	2.25	16.7	Pale yellow, low turbidity, no odour
4/07/2025	A19-BH-05	1.612	3.263	4.34	155.7	411.7	301.1	3.53	20.0	Pale yellow, low turbidity, no odour
4/07/2025	A20-GW04	7.406	24.053	5.45	105.5	1289	936	3.84	19.5	Pale yellow, low turbidity, no odour
4/07/2025	T25-MW15	3.054	6.241	6.22	82.4	399.1	2881	3.04	20.5	Orange/brown, moderate turbidity, no odour
7/07/2025	T25-MW01	1.116	2.223	7.49	141.2	5038	NR	4.87	14.6	Colourless, low turbidity, no odour
7/07/2025	T25-MW03	1.694	2.012	8.88	60.3	998	780	4.73	16.2	Colourless, low turbidity becoming high, no odour, sample collected prior to stabilisation as well purged dry
7/07/2025	T25-MW05	1.704	2.011	7.19	-73.4	2790	NR	7.2	15.8	Colourless, low turbidity, no odour
7/07/2025	T25-MW18	2.481	3.262	5.44	24.1	882	535.2	6.3	17.4	Colourless, low turbidity, no odour
7/07/2025	T25-MW30	1.427	2.013	6.34	51.1	369.9	NR	4.9	16.9	Pale yellow, low turbidity, no odour
7/07/2025	THEXT21-GW04	1.589	6.321	6.05	-63.3	670	460	1.78	18.4	Colourless, low turbidity, no odour

Notes

NR - Not Recorded

Table 2

Surface Water Quality Field Results

Date	Well Number	pH	ORP (mV)	EC $\mu\text{S}/\text{cm}$	TDS (mg/L)	DO (mg/L)	Temperature (°C)	Observations
03 07 2025	SW01-DOWN	7.65	136.8	263.2	214.15	9.84	14.4	Light brown, slight/low turbidity, no odour
03 07 2025	SW01-UP	8.1	120	259.2	211.9	8.18	14.3	Light brown, slight/low turbidity, no odour
03 07 2025	SW02-DOWN	5.26	203.9	441.6	357.9	7.75	14.3	Light brown, slight/low turbidity, 0.5 m deep, 1 m wide
03 07 2025	SW02-UP	7.7	180.9	335.4	273.2	7.79	14.4	Light brown, slight/low turbidity
03 07 2025	SW03-DOWN	7.6	79.4	235.3	179.4	6.75	17.4	Light brown, high turbidity, no odour
03 07 2025	SW03-UP	7.57	98.1	244.7	185.9	7.29	17.5	Brown, high turbidity
03 07 2025	SW04-DOWN	6.67	86.2	235.9	183.7	8.11	14.7	Brown, high turbidity, no odour
03 07 2025	SW04-UP	6.65	82.9	211.9	172.25	6.81	14.3	Brown, high turbidity, no odour
03 07 2025	SW05-DOWN	6.49	94.4	718	685	5.23	14.5	Brown, moderate turbidity, no odour
03 07 2025	SW05-UP	6.45	94.1	707	575.5	6.43	14.4	Brown, high turbidity, no odour
03 07 2025	SW06-DOWN	6.04	-9.6	367	286	2.69	16.3	Colourless, low turbidity, no odour
03 07 2025	SW06-UP	6.07	-14.2	383.3	304.2	2.11	15.4	Colourless, low turbidity, no odour
03 07 2025	SW07-DOWN	7.34	102.2	221.9	181.35	7.81	14.3	Pale yellow, low turbidity, no odour, 0.75 m deep, strong flow
03 07 2025	SW07-UP	6.9	35.1	199.9	152.6	6.86	14.3	Colourless, low turbidity, no odour

Table 3A
Primary Groundwater Results (Metals/Inorganics)

				Metals																	Inorganics												Inorganics											
				Aluminium	Aluminium (filtered)	Arsenic (filtered)	Barium (filtered)	Beryllium (filtered)	Boron (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Cobalt (filtered)	Copper (filtered)	Iron	Iron (filtered)	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Selenium (filtered)	Vanadium (filtered)	Zinc (filtered)	Dissolved Oxygen % Saturation (Lab)	Addity	Temperature (Lab)	Redox Potential (Lab)	Alkalinity (Bicarbonate)	Alkalinity (Carbonate)	Alkalinity (total) as CaCO3	Ammonia as N	Ammonia as N (filtered)	Chloride (filtered)	Dissolved Oxygen (Lab)	Electrical Conductivity (Lab)	Ionic Balance	Kjeldahl Nitrogen Total	Nitrate (as N) (filtered)	Nitrite (as N) (filtered)	Nitrogen (Total)	pH (Lab)	Total Phosphorus (Organic Phosphate)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Sulphate (filtered)	Total Dissolved Solids (Lab) (filtered)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	%	mg/L	°C	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	%	mg/L	mg/L	mg/L	mg/L	mg/L	-	mg/L	mg/L	mg/L	mg/L
LOR				0.005	0.005	0.0005	0.0002	0.0001	0.005	0.00005	0.0005	0.0005	0.0005	0.005	0.005	0.0005	0.001	0.00005	0.001	0.001	0.0005	0.001	1	5	0	-500	5	1	1	0.01	0.01	1	0.5	1	0.01	0.05	0.05	0.05	0.05	0	0.02	0.002	1	10
ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)				0.055	0.055	0.013^	NE	NE	0.94	0.0002	0.001^	NE	0.0014	NE	NE	0.0034	1.9	0.0006	0.011	0.011	NE	0.008	NE	NE	NE	NE	NE	NE	NE	0.9	0.9	NE	NE	NE	NE	NE	NE	0.0011^	NE	NE	NE	NE	NE	
ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)				NE	NE	0.0008^	NE	NE	0.34	0.00006	0.00001^	NE	0.001	NE	NE	0.001	1.2	0.00006	0.008	0.005	NE	0.0024	NE	NE	NE	NE	NE	NE	NE	0.32	NE	NE	NE	NE	NE	NE	NE	0.00064^	NE	NE	NE	NE	NE	NE
DoH NPUG				0.2	0.2	0.1	20	0.6	40	0.02	NE	0.5	1	0.3	0.3	0.1	5	0.01	0.2	0.1	NE	3	NE	NE	NE	NE	NE	NE	0.411	0.411	250	NE	NE	NE	NE	NE	113	9	NE	NE	NE	NE	1,000	NE
NHMRC/NRMMC (2008) Guidelines for Managing Risks in Recreational Waters				NE	NE	NE	NE	NE	NE	NE	NE	0.06	NE	NE	NE	NE	NE	NE	NE	NE	0.86	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE

Field ID	Lab Report Number	Date	Matrix Type	1.9	0.82	<0.0005	0.17	0.0001	0.026	0.00010	0.0030	0.0050	0.0034	2.6	2.3	0.0022	0.83	<0.00005	0.003	<0.001	0.0060	0.006	80.4	9	18.2	386	19	<1	16	-	0.37	53	7.6	620	-	6.0	33	<0.05	39	6.8	0.61	0.013	2	590
A19-BH-01	PE184085	03 07 2025	Water	7.9	6.3	<0.0005	0.21	0.0005	0.022	0.0010	0.0018	0.0037	0.0038	2	0.27	<0.0005	0.56	<0.00005	0.012	<0.001	<0.0005	0.022	60.8	49	18.7	429	<5	<1	<5	-	0.52	25	5.6	340	-	3.1	21	<0.05	24	4.4	0.09	0.003	36	230
A20-GW04	PE184125	04 07 2025	Water	0.22	<0.005	<0.0005	0.021	<0.0001	0.024	<0.00005	<0.0005	0.0010	0.0029	0.83	0.045	<0.0005	0.011	<0.00005	<0.001	<0.001	<0.0005	0.006	67.6	21	18.2	412	18	<1	15	-	<0.05	300	6.4	1,100	-	0.15	<0.05	<0.05	0.15	6.2	0.03	0.002	43	590
T25-MW01	PE184202	07 07 2025	Water	0.5	0.019	0.0015	0.15	<0.0001	0.05	0.00017	0.0034	0.0024	0.014	0.8	0.037	0.0010	0.013	<0.00005	0.012	0.01	0.014	0.032	66.2	11	17.3	408	480	<1	390	-	<0.05	1,700	6.4	6,200	-	1.3	1.2	<0.05	2.5	8.0	0.08	0.034	220	3,500
T25-MW03	PE184202	07 07 2025	Water	1.1	0.014	0.0009	0.054	<0.0001	0.024	0.00009	0.0020	0.0019	0.0046	1.9	0.027	0.0007	0.041	<0.00005	0.004	0.001	0.0030	0.037	-	<5	21.2	371	350	<1	290	-	<0.05	34	-	900	-	1.6	0.49	<0.05	2.1	8.2	0.09	0.015	140	580
T25-MW05	PE184202	07 07 2025	Water	0.081	0.005	0.0016	0.089	<0.0001	0.026	<0.00005	<0.0005	0.0023	0.0037	0.64	0.32	<0.0005	0.17	<0.00005	0.003	<0.001	0.0010	0.005	38.4	12	17.5	370	410	<1	340	-	0.05	420	3.6	2,400	-	1.2	<0.05	<0.05	1.2	7.9	0.04	<0.002	340	1,500
T25-MW08	PE184085	03 07 2025	Water	1.9	0.19	0.0008	0.19	<0.0001	0.045	<0.00005	0.0016	0.0063	0.0073	13	10	<0.0005	1.5	<0.00005	0.007	<0.001	0.0014	0.004	64.0	23	18.0	368	18	<1	15	-	0.36	490	6.1	1,800	-	3.0	0.11	<0.05	3.1	6.2	0.11	0.026	110	1,200
T25-MW15	PE184125	04 07 2025	Water	0.69	<0.005	0.0024	0.014	<0.0001	0.023	<0.00005	<0.0005	<0.0005	0.0050	6.4	5.7	<0.0005	0.048	<0.00005	0.003	<0.001	<0.0005	0.006	37.7	17	18.7	414	25	<1	20	-	0.24	31	3.5	280	-	1.4*	3.6	<0.05	4.4	6.6	<0.02	<0.002	33	180
T25-MW18	PE184202	07 07 2025	Water	0.22	<0.005	<0.0005	0.061	<0.0001	0.01	<0.00005	<0.0005	<0.0005	0.0037	0.36	0.16	<0.0005	0.009	<0.00005	<0.001	<0.001	0.0020	0.005	-	14	21.2	385	16	<1	13	-	<0.05	180	-	730	-	0.22	2.4	<0.05	2.6	6.4	0.05	<0.002	41	400
T25-MW30	PE184202	07 07 2025	Water	2.3	1.2	<0.0005	0.1	<0.0001	0.037	<0.00005	0.0066	0.0012	0.0063	2.1	1.6	0.0087	0.21	0.00007	0.005	<0.001	0.0040	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
THEXT21-GW04	PE184202	07 07 2025	Water	2	0.08	<0.0005	0.039	<0.0001	0.03	0.00008	0.0015	0.0008	0.0067	1.3	0.088	<0.0005	0.046	<0.00005	0.003	<0.001	0.0008	0.002	52.8	10	17.2	366	48	<1	39	-	<0.05	120	5.1	560	-	1.1	<0.05	<0.05	1.1	7.0	0.05	0.008	93	450

Notes
#1 Guidelines values not superseded by ANZG 2025
* Higher/more conservative value presented from replicate samples.
^ - Where no guideline values for metals present, most conservative speciated value used; listed below:
Arsenic (AsV) - LOSP 99% and 95%
Chromium (CrVI) - LOSP 99% and 95%

Environmental Standards
ANZG, June 2025, ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)
ANZG, July 2023, ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)
DoH, 2014, DOH NPUG
NHMRC, June 2025, ADWG 2025 Drinking Water Health Value

Table 3B
Primary Groundwater Results (VOCs/BTEX/TRH/TPH)

				BTEX								Solvents								TRH								TPH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
				Naphthalene (BTEX)								Benzene								Toluene								Ethylbenzene								Xylene (m & p)								Xylene (o)								Xylene Total								Total BTEX								Methyl Ethyl Ketone								2-hexanone (MBK)								4-Methyl-2-pentanone								Acetone								Acrylonitrile								Allyl chloride								Carbon disulfide								MTBE								Vinyl acetate								C6-C10 Fraction								F1 (C6-C10 minus BTEX)								C10-C16 Fraction								F2 (>C10-C16 minus naphthalene)								F3 (C16-C34 Fraction)								F4 (C34-C40 Fraction)								>C10-C40 Fraction (Sum)								C6-C40 Fraction								C6-C9 Fraction								C10-C14 Fraction								C15-C28 Fraction								C29-C36 Fraction								C10-C36 Fraction (Sum)								C6-C36 Fraction																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Units				mg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg/L								µg							

Notes
#1 Guidelines values not superseded by ANZG 2025
NE - Not Established
NL - Not Limiting

Environmental Standards
ANZG, June 2025, ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)
ANZG, July 2023, ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand
NHMRC, June 2008, Guidelines for Managing Risks in Recreational Waters

Table 3B
Primary Groundwater Results (VOCs/BTEX/TRH/TPH)

[illegible]

Notes
 #1 Guidelines values not superseded by ANZG 2025
 NE - Not Established
 NL - Not Limiting

Environmental Standards

ANZ, June 2025, ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)
ANZG, July 2023, ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(4) Res HSL C GW for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(4) Res HSL C GW for Vapour Intrusion, Sand
NHMRC, June 2008, Guidelines for Managing Risks in Recreational Waters

Table 3B
Primary Groundwater Results (VOCs/BTEX/TRH/TPH)

				PAH																			Halogenated Hydrocarbons			Halogenated Hydrocarbons			MAH										VOCs																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
				Naphthalene (BTEX)		Benzene		Total PAHs VIC EPA - assumes <LOR results = 0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Units				mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L

Notes
#1 Guidelines values not superseded by ANZG 2025
NE - Not Established
NL - Not Limiting

Environmental Standards
ANZG, June 2025, ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)
ANZG, July 2023, ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand
NHMRC, June 2008, Guidelines for Managing Risks in Recreational Waters

Table 3C
Primary Groundwater Results (PFAS)

				Perfluoroalkyl Sulfonamides								PFAS					Perfluoroalkane Carboxylic Acids							Perfluoroalkane Carboxylic Acids				Perfluoroalkane Sulfonic Acids						(n:2) Fluorotelomer Sulfonic Acids		
				Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Perfluorobutanesulfonate (PFBS)	Perfluoronanesulfonic acid (PFNS)	Perfluorohexadecanoic acid (PFHxDA)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluoro-1-dodecanesulfonate	Perfluorobutanoic acid (PFBA)	N-Ethylperhexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTriDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	
		Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2025 Freshwater 95%				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	220	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.13	NE	NE	NE	NE	
PFAS NEMP 2025 Freshwater 99%				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	19	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.00023	NE	NE	NE	NE	
PFAS NEMP 2025 Recreational water quality guideline				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	2	NE	NE	NE	NE	NE	NE	10	NE	NE	NE	NE	NE	NE	NE	2	NE	2	NE	NE	NE	NE	
DoH NPUG				NE	NE	NE	NE	NE	NE	NE	10	NE	NE	NE	NE	NE	NE	NE	NE	2	NE	NE	NE	NE	NE	NE	NE	0.3	NE	0.08	NE	NE	NE	NE	NE	
Field ID	Lab Report Number	Date	Matrix Type																																	
A19-BH-01	PE184085	03 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.001	<0.0000005	<0.002	<0.0002	0.013	<0.0005	0.0077	0.0011	<0.0005	<0.0005	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0005	0.0046	<0.0005	<0.0005	<0.0005
A19-BH-05	PE184125	04 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.001	<0.0000005	<0.002	<0.0002	<0.006	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	
A20-GW04	PE184125	04 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.001	<0.0000005	<0.002	<0.0002	<0.006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	
T25-MW01	PE184202	07 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0005	<0.0000005	<0.002	0.014	0.034	<0.0005	0.0018	0.0011	<0.0005	<0.0005	0.0032	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.012	<0.0002	0.0023	<0.0005	0.0073	<0.0005	<0.0005	
T25-MW03	PE184202	07 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.002	<0.0000005	<0.002	0.0053	0.026	<0.0005	0.0075	0.0008	<0.0005	<0.0005	0.0079	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0024	<0.0002	0.0029	<0.0005	0.0031	<0.0005	<0.0005	
T25-MW05	PE184202	07 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.002	<0.0000005	<0.002	0.0002	0.042	<0.0005	0.029	0.0035	0.0043	<0.0005	0.0017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002	0.0002	<0.0005	0.0008	<0.0005	<0.0005	
T25-MW08	PE184085	03 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.001	<0.0000005	<0.002	<0.0002	<0.006	<0.0005	0.0024	0.0014	<0.0005	0.0007	0.0006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	
T25-MW15	PE184125	04 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.001	<0.0000005	<0.002	<0.0002	<0.006	<0.0005	0.0010	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	
T25-MW18	PE184202	07 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.001	<0.0000005	<0.002	<0.0002	<0.006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0005	0.0016	<0.0005	<0.0005	
T25-MW30	PE184202	07 07 2025	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
THEXT21-GW04	PE184202	07 07 2025	Water	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.001	<0.0000005	<0.002	0.0003	0.031	<0.0005	0.010	0.0033	0.0097	0.0027	0.0023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0003	<0.0002	<0.0002	<0.0005	0.0025	<0.0005	<0.0005	

Notes
#1 Guidelines values not superseded by ANZG 2025

Environmental Standards
HEPA, March 2025, PFAS NEMP 2025 Freshwater 95%
HEPA, March 2025, PFAS NEMP 2025 Freshwater 99%
HEPA, March 2025, PFAS NEMP 2025 Recreational water quality guideline
Doh NPUG - 10 x the PFAS DWG (NHMRC, 2025)

Table 4A
Primary Surface Water Results (Metals/Inorganics)

		Metals																					
		Aluminium	Aluminium (filtered)	Arsenic (filtered)	Barium (filtered)	Beryllium (filtered)	Boron (filtered)	Cadmium (filtered)	Calcium (filtered)	Chromium (III+VI) (filtered)	Cobalt (filtered)	Copper (filtered)	Iron	Iron (filtered)	Lead (filtered)	Magnesium (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Potassium (filtered)	Selenium (filtered)	Vanadium (filtered)	Zinc (filtered)
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LOR		0.005	0.005	0.0005	0.0002	0.0001	0.005	0.00005	1	0.0005	0.0005	0.0005	0.005	0.005	0.0005	1	0.001	0.00005	0.001	1	0.001	0.0005	0.001
ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)		0.055	0.055	0.013^	NE	NE	0.94	0.0002	NE	0.001^	NE	0.0014	NE	NE	0.0034	NE	1.9	0.0006	0.011	NE	0.011	NE	0.008
ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)		NE	NE	0.0008^	NE	NE	0.34	0.00006	NE	0.00001^	NE	0.001	NE	NE	0.001	NE	1.2	0.00006	0.008	NE	0.005	NE	0.0024
NHMRC/NRMMC (2008) Guidelines for Managing Risks in Recreational Waters		NE	NE	NE	NE	NE	NE	NE		NE	0.06	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.86	NE

Field ID	Lab Report Number	Date	Matrix Type																						
SW01-DOWN	PE184086	03 07 2025	Water	3	0.028	<0.0005	0.023	<0.0001	0.024	<0.00005	-	<0.0005	<0.0005	0.0010	2.1	0.067	<0.0005	-	<0.001	<0.00005	<0.001	-	<0.001	0.0008	0.001
SW01-UP	PE184086	03 07 2025	Water	2.9	0.023	<0.0005	0.022	<0.0001	0.023	<0.00005	-	<0.0005	<0.0005	0.0010	2	0.06	<0.0005	-	<0.001	<0.00005	<0.001	-	<0.001	0.0007	0.001
SW02-DOWN	PE184086	03 07 2025	Water	0.78	0.47	0.0006	0.019	<0.0001	0.025	<0.00005	-	0.0008	<0.0005	0.0020	0.46	0.28	<0.0005	-	0.004	<0.00005	<0.001	-	<0.001	0.0010	0.005
SW02-UP	PE184086	03 07 2025	Water	0.71	0.45	0.0006	0.019	<0.0001	0.024	<0.00005	-	0.0007	<0.0005	0.0028	0.44	0.24	<0.0005	-	0.004	<0.00005	<0.001	-	<0.001	0.0011	0.005
SW03-DOWN	PE184086	03 07 2025	Water	12	0.044	<0.0005	0.013	<0.0001	0.021	<0.00005	-	<0.0005	<0.0005	0.0024*	2.9	0.081	<0.0005	-	0.002	<0.00005	<0.001	-	<0.001	0.0016	0.002
SW03-UP	PE184086	03 07 2025	Water	15	1.7	<0.0005	0.034	0.0001	0.023	<0.00005	-	0.0027	<0.0005	0.0042	3.7	1	0.0074	-	0.01	0.00006	<0.001	-	<0.001	0.01	0.022
SW04-DOWN	PE184086	03 07 2025	Water	13	0.069	<0.0005	0.021	<0.0001	0.038	<0.00005	-	<0.0005	<0.0005	0.0015	15	0.12	<0.0005	-	0.026	<0.00005	<0.001	-	<0.001	0.0006	0.004
SW04-UP	PE184086	03 07 2025	Water	13	0.04	<0.0005	0.019	<0.0001	0.038	<0.00005	-	<0.0005	<0.0005	0.0016	16	0.12	<0.0005	-	0.028	<0.00005	<0.001	-	<0.001	0.0006	0.004
SW05-DOWN	PE184086	03 07 2025	Water	0.3	0.26	0.0009	0.034	<0.0001	0.043	0.00007	-	0.0009	0.0011	0.0036	3.6	2.8	<0.0005	-	0.069	<0.00005	0.001	-	<0.001	0.0015	0.016
SW05-UP	PE184086	03 07 2025	Water	0.79	0.25	0.0009	0.034	<0.0001	0.042	0.00007	-	0.0008	0.0011	0.0035	4.8	2.8	<0.0005	-	0.06	<0.00005	0.001	-	<0.001	0.0014	0.016
SW06-DOWN	PE184086	03 07 2025	Water	1.1	0.25	<0.0005	0.028	<0.0001	0.019	<0.00005	-	<0.0005	0.0011	0.0012	3	1.1	<0.0005	-	0.14	<0.00005	<0.001	-	<0.001	0.0020	0.005
SW06-UP	PE184086	03 07 2025	Water	1.4	0.23	<0.0005	0.026	<0.0001	0.02	<0.00005	-	<0.0005	0.0010	0.0021	3.3	1	<0.0005	-	0.12	<0.00005	<0.001	-	<0.001	0.0021	0.009
SW07-DOWN	PE184086	03 07 2025	Water	0.96	0.29	0.0006	0.012	<0.0001	0.022	<0.00005	-	<0.0005	<0.0005	0.0018	0.41	0.16	<0.0005	-	<0.001	<0.00005	<0.001	-	<0.001	0.0013	0.004
SW07-UP	PE184086	03 07 2025	Water	0.98	0.51	0.0005	0.013	<0.0001	0.023	<0.00005	-	0.0007	<0.0005	0.0022	0.45	0.26	<0.0005	-	0.002	<0.00005	<0.001	-	<0.001	0.0015	0.008

Notes
#1 Guidelines values not superseded by ANZG 2025
* Higher/more conservative value presented from replicate samples.
^ - Where no guideline values for metals present, most conservative speciated value used; listed below:
Arsenic (AsV) - LOSP 99% and 95%
Chromium (CrVI) - LOSP 99% and 95%
Nitrate - LOSP 99% and 95%

Environmental Standards
ANZG, June 2025, ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)
ANZG, July 2023, ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)
DoH, 2014, DOH NPUG
NHMRC, 2008, Guidelines for Managing Risks in Recreational Waters

Table 4A
Primary Surface Water Results (Metals/Inorganics)

		Inorganics					Inorganics															
		Aluminium	Aluminium (filtered)	Dissolved Oxygen % Saturation (Lab)	Acidity	Temperature (Lab)	Redox Potential (Lab)	Alkalinity (Bicarbonate)	Alkalinity (Carbonate)	Alkalinity (total) as CaCO3	Ammonia as N (filtered)	Chloride (filtered)	Dissolved Oxygen (Lab)	Electrical Conductivity (Lab)	Kjeldahl Nitrogen Total	Nitrate (as N) (filtered)	Nitrite (as N) (filtered)	Nitrogen (Total)	pH (Lab)	Total Phosphorus (Organic Phosphate)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Sulphate (filtered)
Units	LOR	mg/L	mg/L	%	mg/L	°C	mV	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	mg/L	mg/L	mg/L	mg/L	-	mg/L	mg/L	mg/L	mg/L
		0.005	0.005	1	5	0	-500	5	1	1	0.01	1	0.5	1	0.05	0.05	0.05	0	0.02	0.002	1	10
ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)		0.055	0.055	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.0011^	NE	NE	NE	NE	NE	NE
ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.00064^	NE	NE	NE	NE	NE	NE
NHMRC/NRMMC (2008) Guidelines for Managing Risks in Recreational Waters		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE

Field ID	Lab Report Number	Date	Matrix Type	3	0.028	93.9	<5	17.8	353	70	<1	57	<0.05	31	8.9	240	0.96	0.36	<0.05	1.3	7.7	0.07	0.008	16	170
SW01-DOWN	PE184086	03 07 2025	Water	2.9	0.023	92.8	<5	17.8	353	68	<1	56	<0.05	30	8.8	240	0.89	0.36	<0.05	1.2	7.7	0.05	0.009	16	170
SW02-DOWN	PE184086	03 07 2025	Water	0.78	0.47	86.7	<5	17.7	354	63	<1	52	<0.05	53	8.2	330	0.53	0.27	<0.05	0.80	7.5	0.05	0.010	23	190
SW02-UP	PE184086	03 07 2025	Water	0.71	0.45	85.9	<5	17.7	353	61	<1	50	0.07	53	8.1	310	0.60	0.27	<0.05	0.87	7.5	0.05	0.011	20	190
SW03-DOWN	PE184086	03 07 2025	Water	12	0.044	91.5	<5	18.3	346	56	<1	46	<0.05	29	8.7	210	1.5	0.47	<0.05	2.0	7.6	0.11	0.009	11	250
SW03-UP	PE184086	03 07 2025	Water	15	1.7	91.6	<5	17.9	348	57	<1	47	0.07	29	8.7	210	1.4	0.50	<0.05	1.9	7.5	0.12	0.009	10	280
SW04-DOWN	PE184086	03 07 2025	Water	13	0.069	88.1	<5	18.0	349	13	<1	11	<0.05	37	8.3	210	1.5	0.35	<0.05	1.9	6.8	0.18	0.005	6	220
SW04-UP	PE184086	03 07 2025	Water	13	0.04	88.6	<5	17.8	349	15	<1	12	<0.05	37	8.4	200	1.5	0.34	<0.05	1.8	6.8	0.20	0.010	7	220
SW05-DOWN	PE184086	03 07 2025	Water	0.3	0.26	74.0	9	18.0	362	22	<1	18	0.10	170	7.0	680	5.1	0.19	<0.05	5.3	6.8	0.36	0.14	44	370
SW05-UP	PE184086	03 07 2025	Water	0.79	0.25	84.8	8	18.2	361	30	<1	24	0.05	170	8.0	680	5.2	0.20	<0.05	5.4	6.7	0.40	0.13	44	520
SW06-DOWN	PE184086	03 07 2025	Water	1.1	0.25	43.5	15	18.0	360	31	<1	26	<0.05	60	4.1	320	0.99	0.69	<0.05	1.7	6.6	0.12	0.003	27	280
SW06-UP	PE184086	03 07 2025	Water	1.4	0.23	26.0	15	18.0	359	29	<1	24	0.21	60	2.5	320	1.8	0.57	<0.05	2.3	6.6	0.11	0.006	29	270
SW07-DOWN	PE184086	03 07 2025	Water	0.96	0.29	91.3	<5	18.2	348	38	<1	32	<0.05	34	8.6	210	0.46	0.18	<0.05	0.64	7.3	0.08	0.041	13	120
SW07-UP	PE184086	03 07 2025	Water	0.98	0.51	89.4	<5	18.1	350	39	<1	32	<0.05	34	8.5	210	0.67	0.20	<0.05	0.88	7.3	0.08	0.041	13	140

Notes

#1 Guidelines values not superseded by ANZG 2025

* Higher/more conservative value presented from replicate samples.

^ - Where no guideline values for metals present, most conservative speciated value used; listed below:

Arsenic (AsV) - LOSP 99% and 95%

Chromium (CrVI) - LOSP 99% and 95%

Nitrate - LOSP 99% and 95%

Environmental Standards

ANZG, June 2025, ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)

ANZG, July 2023, ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)

DoH, 2014, DOH NPUG

NHMRC, 2008, Guidelines for Managing Risks in Recreational Waters

Notes
 #1 Guideline values not superseded by ANZG 2025

Environmental Standards
 ANZG, June 2025, ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)
 ANZG, July 2023, ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)
 NHMRC, 2008, Guidelines for Managing Risks in Recreational Waters

Table 4B:
Primary Surface Water Results (VOCs/BTEX/TRH/TPH)

						Chlorinated Hydrocarbons								Chlorinated Hydrocarbons																				Chlorinated Hydrocarbons				
						Naphthalene (BTEX)	Benzene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-Dichloroethene	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene
Units				mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR				0.001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	
ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)				0.016	950	NE	270	400	6,500	NE	700	NE	NE	NE	1,900	NE	900	1,100	NE	NE	NE	NE	240	NE	NE	770	NE	NE	NE	NE	NE	4,000	NE	330	70	NE	NE	100
ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
NHMRC/NRMMC (2008) Guidelines for Managing Risks in Recreational Waters				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE

Field ID	Lab Report Number	Date	Matrix Type	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
SW01-DOWN	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01-UP	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02-DOWN	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02-UP	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03-DOWN	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03-UP	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW04-DOWN	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW04-UP	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW05-DOWN	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW05-UP	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW06-DOWN	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW06-UP	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW07-DOWN	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW07-UP	PE184086	03 07 2025	Water	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Notes
#1 Guidelines values not superseded by ANZG 2025

Environmental Standards
ANZG, June 2025, ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)
ANZG, July 2023, ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)
NHMRC, 2008, Guidelines for Managing Risks in Recreational Waters

Notes

#1 Guidelines values not superseded by ANZG 2025

Environmental Standards

ANZG, June 2025, ANZG Freshwater Toxicant DGVs LOSP 95% (June 2025)

ANZG, July 2023, ANZG Freshwater 99% LOSP Toxicant DGVs - Bioaccumulating Toxicant (July 2023)

NHMC, 2008, Guidelines for Managing Risks in Recreational Waters

[illegible]

Environmental Standards

HEPA, March 2025, PFAS NEMP 2025 Freshwater 95%

HEPA, March 2025, PFAS NEMP 2025 Freshwater 99%

HEPA, March 2025, PFAS NEMP 2025 Recreational water quality guideline

Table 5A
Primary Sediment Results (Metals/Inorganics)

				Inorganics															
				% Moisture	Nitrite + Nitrate as N (filtered)	Alkalinity (Bicarbonate) (filtered)	Alkalinity (Carbonate) (filtered)	Alkalinity (Hydroxide) (filtered)	Alkalinity (total) as CaCO3 (filtered)	Ammonia as N (filtered)	Kjeldahl Nitrogen Total	Nitrate (as N) (filtered)	Nitrate (as NO3-) (filtered)	Nitrite (as N) (filtered)	Nitrite (as NO2-) (filtered)	Nitrogen (Total)	Total Phosphorus (Organic Phosphate)	Sodium	Sulphur as S (filtered)
				%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	0.025	25	25	25	25	1	5	0.025	4	0.025	3	10	10	10	1
ANZG Toxicant Default Guideline Values for Sediment Quality - DGV				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
ANZG Toxicant Default Guideline Values for Sediment Quality - GV - High				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NEPM 2013 Table 1B(5) Generic EIL - Areas of Ecological Significance (Cons. V.)				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space (Cons. Values)				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NEPM 2013 Table 1B(5) Site Specific EIL - Areas of Ecological Significance				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NEPM 2013 Table 1B(5) Site Specific EIL - Urban Res & Public Open Space				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Field ID	Lab Report Number	Date	Matrix Type																
SD01-DOWN	PE184089	03 07 2025	Soil	37.5	7.9	78	<25	<25	64	7	1,100	7.1	31	0.80	<3	1,100	200	300	6
SD02-DOWN	PE184089	03 07 2025	Soil	39.0	0.75	500	<25	<25	410	<1	25,000	0.54	<4	0.21	<3	25,000	210	300	36
SD03-DOWN	PE184089	03 07 2025	Soil	15.5	1.4	110	<25	<25	94	<1	470	1.4	6	0.033	<3	480	130	38	1
SD04-DOWN	PE184089	03 07 2025	Soil	24.0	0.83	210	<25	<25	170	1	6,100	0.69	<4	0.14	<3	6,100	240	140	7
SD05-DOWN	PE184089	03 07 2025	Soil	40.9	1.4	94	<25	<25	77	<1	5,400	1.3	6	0.090	<3	5,400	490	390	17
SD06-DOWN	PE184089	03 07 2025	Soil	33.4	1.9	<25	<25	<25	<25	<1	19,000	1.8	8	0.15	<3	19,000	250	460	36
SD07-DOWN	PE184089	03 07 2025	Soil	25.6	3.6	260	<25	<25	210	<1	610	3.5	16	0.067	<3	610	410	340	76

Environmental Standards

ANZG, ANZG Toxicant Default Guideline Values for Sediment Quality - DGV
ANZG, ANZG Toxicant Default Guideline Values for Sediment Quality - GV - High
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Areas of Ecological Significance (Cons. V.)
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space (Cons. Values)
NEPM, 2013, NEPM 2013 Table 1B(5) Site Specific EIL - Areas of Ecological Significance
NEPM, 2013, NEPM 2013 Table 1B(5) Site Specific EIL - Urban Res & Public Open Space

Table 5A
Primary Sediment Results (Metals/Inorganics)

				Metals									
				Arsenic	Cadmium	Calcium	Chromium (III+VI)	Copper	Lead	Magnesium	Mercury	Nickel	Potassium
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	0.3	10	0.5	0.5	1	10	0.05	0.5	10
ANZG Toxicant Default Guideline Values for Sediment Quality - DGV				20	1.5	NE	80	65	50	NE	0.15	21	NE
ANZG Toxicant Default Guideline Values for Sediment Quality - GV - High				70	10	NE	370	270	220	NE	1	52	NE
NEPM 2013 Table 1B(5) Generic EIL - Areas of Ecological Significance (Cons. V.)				40	NE	NE	60	30	470	NE	NE	5	NE
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space (Cons. Values)				100	NE	NE	190	95	1,100	NE	NE	30	NE
NEPM 2013 Table 1B(5) Site Specific EIL - Areas of Ecological Significance				43	0.6	NE	79.9	45.6	479	NE	NE	9	NE
NEPM 2013 Table 1B(5) Site Specific EIL - Urban Res & Public Open Space				103	1	NE	204.9	75.6	1109	NE	NE	12	NE
Field ID	Lab Report Number	Date	Matrix Type										
SD01-DOWN	PE184089	03 07 2025	Soil	1	<0.3	1,700	17	4.5	13	2,000	0.08	4.6	330
SD02-DOWN	PE184089	03 07 2025	Soil	1	<0.3	3,700	10	8.8	15	560	<0.05	3.1	400
SD03-DOWN	PE184089	03 07 2025	Soil	1	<0.3	3,400	13	<0.5	12	150	<0.05	1.6	71
SD04-DOWN	PE184089	03 07 2025	Soil	2	<0.3	3,300	19	15	17	1,000	<0.05	5.9	680
SD05-DOWN	PE184089	03 07 2025	Soil	1	<0.3	3,700	8.4	7.2	15	1,200	<0.05	3.4	660
SD06-DOWN	PE184089	03 07 2025	Soil	2	<0.3	1,800	22	17	23	1,400	<0.05	8.9	340
SD07-DOWN	PE184089	03 07 2025	Soil	2	<0.3	4,300	19	12	23	750	<0.05	5.0	270

Environmental Standards
ANZG, ANZG Toxicant Default Guideline Values for Sediment Quality - DGV
ANZG, ANZG Toxicant Default Guideline Values for Sediment Quality - GV - High
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Areas of Ecological Significance (Cons. V.)
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space (Cons. Values)
NEPM, 2013, NEPM 2013 Table 1B(5) Site Specific EIL - Areas of Ecological Significance
NEPM, 2013, NEPM 2013 Table 1B(5) Site Specific EIL - Urban Res & Public Open Space

Table 5B
Primary Sediment Results (BTEX/TRH/TPH)

				BTEX								TRH								TPH							
				Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction	F1 (C6-C10 minus BTEX)	>C10-C16 Fraction	F2 (>C10-C16 minus naphthalene)	F3 (C16-C34 Fraction)	F4 (C34-C40 Fraction)	>C10-C40 Fraction (Sum)	C6-C40 Fraction	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	C6-C36 Fraction		
				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	
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	10	10	10	10	20	20	20	20	10	10	20	20	20	20		
ANZG Toxicant Default Guideline Values for Sediment Quality - DGV				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	280		
ANZG Toxicant Default Guideline Values for Sediment Quality - GV - High				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	550		
NEPM 2013 Table 1B(6) ESLs for Urban Res / POS, Coarse Soil >=0m, <2m				NE	50	85	70	NE	NE	105	NE	NE	180	NE	120	300	2,800	NE	NE	NE	NE	NE	NE	NE	NE		
NEPM 2013 Table 1B(6) ESLs for Urban Res / POS, Fine Soil >=0m, <2m				NE	65	105	125	NE	NE	45	NE	NE	180	NE	120	1,300	5,600	NE	NE	NE	NE	NE	NE	NE	NE		
NEPM 2013 Table 1B(6) ESLs for Areas of Ecological Significance, Coarse Soil >=0m, <2m				NE	8	10	1.5	NE	NE	10	NE	NE	125	NE	25	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE		
NEPM 2013 Table 1B(6) ESLs for Areas of Ecological Significance, Fine Soil >=0m, <2m				NE	NE	NE	NE	NE	NE	NE	NE	NE	125	NE	25	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE		
Field ID	Lab Report Number	Date	Matrix Type																								
SD01-DOWN	PE184089	03 07 2025	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<10	<10	720	720	1,500	1,100	3,300	3,300	<10	330	1,200	1,100	2,600	2,600		
SD02-DOWN	PE184089	03 07 2025	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<10	<10	230	230	950	700	1,900	1,900	<10	150	580	800	1,500	1,500		
SD03-DOWN	PE184089	03 07 2025	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<10	<10	25	25	180	94	300	300	<10	18	98	120	240	240		
SD04-DOWN	PE184089	03 07 2025	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<10	<10	310	310	1,500	390	2,200	2,200	<10	210	870	900	2,000	2,000		
SD05-DOWN	PE184089	03 07 2025	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<10	<10	490	490	2,500	930	4,000	4,000	<10	330	1,500	1,600	3,500	3,500		
SD06-DOWN	PE184089	03 07 2025	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<10	<10	110	110	570	230	910	910	<10	72	340	350	760	760		
SD07-DOWN	PE184089	03 07 2025	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<10	<10	<10	<10	120	46	160	160	<10	<10	59	79	140	140		

Notes
NE - Not Established
NL - Not Limiting

Environmental Standards
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Areas of Ecological Significance (Cons. V.)
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space (Cons. Values)
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

Table 5C
Primary Sediment Results (PFAS)

				Perfluoroalkyl Sulfonamides								PFAS				Perfluoroalkane Carboxylic Acids												
				Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Perfluorobutanesulfonate	Perfluorononanesulfonic acid (PFNS)	Perfluorohexadecanoic acid (PFHxDA)	Sum of PFHxS and PFOS	Perfluoro-1-dodecanesulfonate	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTriDA)	Perfluoroundecanoic acid (PFUnDA)		
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
EQL				0.001	0.001	0.001	0.002	0.001	0.001	0.002	0.0001	0.1	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001		
PFAS NEMP 2025 Ecological direct exposure – all land uses				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10	NE	NE	NE	NE	NE	NE		
PFAS NEMP 2025 Interim ecological indirect exposure – all land uses				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.003	NE	NE	NE	NE	NE	NE		
Field ID	Lab Report Number	Date	Matrix Type																									
SD01-DOWN	PE184089	03 07 2025	Soil	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.0001	<0.1	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
SD02-DOWN	PE184089	03 07 2025	Soil	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.0001	<0.1	<0.0001	0.0009	<0.0001	0.0001	0.0001	0.0006	<0.0001	0.0003	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
SD03-DOWN	PE184089	03 07 2025	Soil	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.0001	<0.1	<0.0001	0.0004	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
SD04-DOWN	PE184089	03 07 2025	Soil	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.0001	<0.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
SD05-DOWN	PE184089	03 07 2025	Soil	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.0001	<0.1	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0009	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
SD06-DOWN	PE184089	03 07 2025	Soil	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.0001	<0.1	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
SD07-DOWN	PE184089	03 07 2025	Soil	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.0001	<0.1	<0.0001	0.0081	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	0.0004	0.0001	<0.0001	<0.0001	<0.0001	<0.0001		

Environmental Standards
HEPA, March 2025, PFAS NEMP 2025 Ecological direct exposure – all land uses
HEPA, March 2025, PFAS NEMP 2025 Interim ecological indirect exposure – all land uses

Table 5C
Primary Sediment Results (PFAS)

				Perfluoroalkane Sulfonic Acids					(n:2) Fluorotelomer Sulfonic Acids			
				Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg	mg/kg	mg/kg	mg/kg
EQL				0.0001	0.0001	0.0001	0.0001	0.0001	1	0.001	0.001	0.001
PFAS NEMP 2025 Ecological direct exposure – all land uses				NE	NE	NE	1	NE	NE	NE	NE	NE
PFAS NEMP 2025 Interim ecological indirect exposure – all land uses				NE	NE	NE	0.003	NE	NE	NE	NE	NE

Field ID	Lab Report Number	Date	Matrix Type									
SD01-DOWN	PE184089	03 07 2025	Soil	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<1	<0.001	<0.001	<0.001
SD02-DOWN	PE184089	03 07 2025	Soil	<0.0001	0.0002	<0.0001	0.0008	<0.0001	<1	<0.001	<0.001	<0.001
SD03-DOWN	PE184089	03 07 2025	Soil	<0.0001	<0.0001	<0.0001	0.0004	<0.0001	<1	<0.001	<0.001	<0.001
SD04-DOWN	PE184089	03 07 2025	Soil	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<1	<0.001	<0.001	<0.001
SD05-DOWN	PE184089	03 07 2025	Soil	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<1	<0.001	<0.001	<0.001
SD06-DOWN	PE184089	03 07 2025	Soil	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<1	<0.001	<0.001	<0.001
SD07-DOWN	PE184089	03 07 2025	Soil	<0.0001	<0.0001	<0.0001	0.0081	<0.0001	<1	<0.001	<0.001	<0.001

Environmental Standards
HEPA, March 2025, PFAS NEMP 2025 Ecological direct exposure – all land uses
HEPA, March 2025, PFAS NEMP 2025 Interim ecological indirect exposure – all land uses

Table 5D
Primary Sediment Results (Acid Sulphate Soils)

				Field Test		Acid Sulphate Soils	NA			SPOCAS	Acid Sulphate Soils - Acid Base Accounting				Acid Sulphate Soils - Acidity Trail		Acid Sulphate Soils - ANC			Acid Sulphate Soils - Liming Rate		Acid Sulphate Soils - pH	Acid Sulphate Soils - Potential Acidity	
				pHF	pHFOX	pH Delta (pHF- pHFox)*	Chromium Reducible Sulfur (Scr)	Soluble Chloride (filtered)	Sulphur as Sulphate, SO4 (filtered)	Acid Neutralising Capacity - Acidity units	Net Acidity (acidity units)	Net Acidity (Acidity Units) Minus ANC	Net Acidity (sulfur units)	Verification s-Net Acidity	Titrateable Actual Acidity (sulfur units)	Titrateable Actual Acidity (TAA)	Acid Neutralising Capacity (acidity units)	Acid Neutralising Capacity	Acid Neutralising Capacity (sulfur units)	Liming Rate without ANCBT	Liming Rate	pH/KCl	Chromium Reducible Sulphur (acidity units)	Chromium Reducible Sulfur
				pH units	pH units	-	kg H2SO4/T	mg/kg	mg/kg	kg H2SO4/T	mole H+/t	MOL H+/T	%S	%	%S	moles H+/T	mole H+/t	%CaCO3	%S	kg CaCO3/T	kg CaCO3/t	pH units	mole H+/t	%S
EQL				0.1	0.1	-10	0.25	5	3	0.1	5	5	0.01	0.01	0.01	5	5	0.1	0.005	0.1	0.1	0.1	5	0.005
PFAS NEMP 2025 Interim ecological indirect exposure – all land uses				<4.0	<3.0	NE	NE	NE	NE	NE	18.7	18.7	≥0.03	NE	≥0.03	18.7	NE	NE	NE	NE	NE	<4.0	18.7	≥0.03
Field ID	Lab Report Number	Date	Matrix Type																					
SD01-DOWN	PE184089	03 07 2025	Soil	7.2	4.3	2.9	<0.25	89	18	2.5	<5	15	<0.01	<0.01	0.02	12	51	0.3	0.081	-	<0.1	6.0	<5	<0.005
SD02-DOWN	PE184089	03 07 2025	Soil	7.6	5.3	2.3	<0.25	150	110	7.4	<5	<5	<0.01	<0.01	<0.01	7.4	150	0.8	0.24	<0.1	<0.1	7.5	<5	<0.005
SD03-DOWN	PE184089	03 07 2025	Soil	7.7	5.2	2.6	<0.25	<5	4	41	<5	<5	<0.01	<0.01	<0.01	<5	840	4.2	1.3	<0.1	<0.1	8.9	<5	<0.005
SD04-DOWN	PE184089	03 07 2025	Soil	7.4	4.3	3.1	<0.25	28	21	10	<5	<5	<0.01	<0.01	<0.01	<5	200	1.0	0.33	<0.1	<0.1	7.2	<5	<0.005
SD05-DOWN	PE184089	03 07 2025	Soil	7.2	4.3	2.9	<0.25	190	51	8.7	<5	<5	<0.01	<0.01	<0.01	<5	180	0.9	0.29	<0.1	<0.1	7.3	<5	0.005
SD06-DOWN	PE184089	03 07 2025	Soil	6.6	2.4	4.2	<0.25	190	110	5.0	<5	23	<0.01	<0.01	0.03	20	100	0.5	0.16	1.7	<0.1	5.7	<5	<0.005
SD07-DOWN	PE184089	03 07 2025	Soil	7.9	5.3	2.6	<0.25	90	230	11	<5	<5	<0.01	<0.01	<0.01	<5	230	1.1	0.37	<0.1	<0.1	7.9	<5	0.006

Environmental Standards
Department of Environment Regulation (2015) Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes.

Notes
NE - Not Established

Table 6
QA/QC Results (Groundwater RPD)

		Field ID	T25-MW15	DUP02		T25-MW15	TRIP02		THEXT21-GW04	DUP03		THEXT21-GW04	TRIP03		
		Lab Report Number	PE184125	PE184125		PE184125	EP2510776		PE184202	PE184202		PE184202	EP2510927		
		Date	04 07 2025	04 07 2025		04 07 2025	04 07 2025		07 07 2025	07 07 2025		07 07 2025	07 07 2025		
		Matrix Type	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	
		Unit	EQL												
Inorganics	Dissolved Oxygen % Saturation (Lab)	%	1	37.7	38.3	2	37.7	-	-	52.8	47.6	10	52.8	-	-
	Acidity	mg/L	5	17	14	19	17	-	-	10	11	10	10	-	-
	Temperature (Lab)	°C	0	18.7	18.3	2	18.7	-	-	17.2	17.6	2	17.2	-	-
	Total Phosphorus as P (Organic Phosphate as P)	mg/L	0.01	-	-	-	-	0.03	-	-	-	-	-	0.03	-
	Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	-	-	-	-	31	-	-	-	-	-	60	-
	Nitrite + Nitrate as N	mg/L	0.01	-	-	-	-	3.69	-	-	-	-	-	0.01	-
	Redox Potential (Lab)	mV	-500	414	397	4	414	-	-	366	361	1	366	-	-
	Acidity (as CaCO3)	mg/L	1	-	-	-	-	22	-	-	-	-	-	13	-
	Alkalinity (Bicarbonate as CaCO3)	mg/L	1	-	-	-	-	19	-	-	-	-	-	44	-
	Alkalinity (Bicarbonate)	mg/L	5	25	25	0	25	-	-	48	48	0	48	-	-
	Alkalinity (Carbonate)	mg/L	1	<1	<1	0	<1	-	-	<1	<1	0	<1	-	-
	Alkalinity (Carbonate as CaCO3)	mg/L	1	-	-	-	-	<1	-	-	-	-	-	<1	-
	Alkalinity (Hydroxide) as CaCO3	mg/L	1	-	-	-	-	<1	-	-	-	-	-	<1	-
	Alkalinity (total) as CaCO3	mg/L	1	20	21	5	20	19	5	39	40	3	39	44	12
	Ammonia as N	mg/L	0.01	-	-	-	-	0.01	-	-	-	-	-	0.02	-
	Ammonia as N (filtered)	mg/L	0.01	0.24	0.23	4	0.24	-	-	<0.05	<0.05	0	<0.05	-	-
	Anions Total	meq/L	0.01	-	-	-	-	2.22	-	-	-	-	-	5.20	-
	Cations Total	meq/L	0.01	-	-	-	-	2.40	-	-	-	-	-	5.00	-
	Chloride	mg/L	1	-	-	-	-	33	-	-	-	-	-	109	-
	Chloride (filtered)	mg/L	1	31	31	0	31	-	-	120	110	9	120	-	-
	Dissolved Oxygen (Lab)	mg/L	0.5	3.5	3.6	3	3.5	-	-	5.1	4.5	12	5.1	-	-
	Electrical Conductivity (Lab)	µS/cm	1	280	280	0	280	268	4	560	570	2	560	562	0
	Ionic Balance	%	0.01	-	-	-	-	4.00	-	-	-	-	-	1.96	-
	Kjeldahl Nitrogen Total	mg/L	0.05	0.75	0.80	6	0.75	1.4	60	1.1	1.1	0	1.1	0.9	20
	Nitrate (as N) (filtered)	mg/L	0.05	3.6	3.3	9	3.6	-	-	<0.05	<0.05	0	<0.05	-	-
	Nitrite (as N) (filtered)	mg/L	0.05	<0.05	<0.05	0	<0.05	-	-	<0.05	<0.05	0	<0.05	-	-
	Nitrogen (Total)	mg/L	0.05	4.4	4.1	7	4.4	5.1	15	1.1	1.1	0	1.1	0.9	20
	pH (Lab)	-	0	6.6	6.6	0	6.6	6.63	0	7.0	7.0	0	7.0	7.19	3
	Total Phosphorus (Organic Phosphate)	mg/L	0.02	<0.02	0.02	0	<0.02	-	-	0.05	0.06	18	0.05	-	-
	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	mg/L	0.002	<0.002	<0.002	0	<0.002	<0.01	0	0.008	0.008	0	0.008	<0.01	0
	Sodium (filtered)	mg/L	1	-	-	-	-	24	-	-	-	-	-	78	-
	Sulphate (filtered)	mg/L	1	33	32	3	33	-	-	93	84	10	93	-	-
	Sulphide	mg/L	0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-
	Total Dissolved Solids (Lab)	mg/L	10	-	-	-	-	187	-	-	-	-	-	418	-
	Total Dissolved Solids (Lab) (filtered)	mg/L	10	180	170	6	180	-	-	450	450	0	450	-	-
Metals	Aluminium	mg/L	0.005	0.69	0.65	6	0.69	-	-	2	2.1	5	2	2.75	32
	Aluminium (filtered)	mg/L	0.005	<0.005	<0.005	0	<0.005	<0.01	0	0.08	0.076	5	0.08	0.08	0
	Arsenic (filtered)	mg/L	0.0005	0.0024	0.0024	0	0.0024	-	-	<0.0005	<0.0005	0	<0.0005	0.002	120
	Barium (filtered)	mg/L	0.0002	0.014	0.014	0	0.014	-	-	0.039	0.037	5	0.039	-	-
	Beryllium (filtered)	mg/L	0.0001	<0.0001	<0.0001	0	<0.0001	-	-	<0.0001	<0.0001	0	<0.0001	-	-
	Boron (filtered)	mg/L	0.005	0.023	0.024	4	0.023	-	-	0.03	0.029	3	0.03	-	-
	Cadmium (filtered)	mg/L	0.00005	<0.00005	<0.00005	0	<0.00005	-	-	0.00008	0.00007	13	0.00008	<0.0001	0
	Calcium (filtered)	mg/L	1	-	-	-	-	11	-	-	-	-	-	16	-
	Chromium (III+VI) (filtered)	mg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-	0.0015	0.0013	14	0.0015	0.001	40
	Cobalt (filtered)	mg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-	0.0008	0.0008	0	0.0008	<0.001	0
	Copper (filtered)	mg/L	0.0005	0.0050	0.0050	0	0.0050	-	-	0.0067	0.0060	11	0.0067	0.005	29
	Iron	mg/L	0.005	6.4	6.6	3	6.4	-	-	1.3	1.3	0	1.3	1.41	8
	Iron (filtered)	mg/L	0.005	5.7	5.9	3	5.7	5.57	2	0.088	0.082	7	0.088	0.09	2
	Lead (filtered)	mg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-	<0.0005	<0.0005	0	<0.0005	<0.001	0
	Magnesium (filtered)	mg/L	1	-	-	-	-	8	-	-	-	-	-	8	-
	Manganese (filtered)	mg/L	0.001	0.048	0.049	2	0.048	0.048	0	0.046	0.044	4	0.046	0.042	9
	Mercury (filtered)	mg/L	0.00005	<0.00005	<0.00005	0	<0.00005	-	-	<0.00005	<0.00005	0	<0.00005	-	-
	Nickel (filtered)	mg/L	0.001	0.003	0.003	0	0.003	-	-	0.003	0.002	40	0.003	0.003	0
	Potassium (filtered)	mg/L	1	-	-	-	-	6	-	-	-	-	-	6	-
	Selenium (filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	-	-	<0.001	<0.001	0	<0.001	<0.01	0
	Vanadium (filtered)	mg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-	0.0008	0.0007	13	0.0008	-	-
	Zinc (filtered)	mg/L	0.001	0.006	0.004	40	0.006	-	-	0.002	0.002	0	0.002	<0.005	0

Table 6
QA/QC Results (Groundwater RPD)

		Field ID		T25-MW15		DUP02		T25-MW15		TRIP02		THEXT21-GW04		DUP03		THEXT21-GW04		TRIP03	
		Lab Report Number		PE184125		PE184125		PE184125		EP2510776		PE184202		PE184202		PE184202		EP2510927	
		Date		04 07 2025		04 07 2025		04 07 2025		04 07 2025		07 07 2025		07 07 2025		07 07 2025		07 07 2025	
		Matrix Type		Water		Water		RPD		Water		Water		RPD		Water		Water	
		Unit	EQL																
BTEX	Naphthalene (BTEX)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.005	0	<0.001	<0.001	0	<0.001	<0.005	0				
	Benzene	µg/L	1	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0				
	Toluene	µg/L	1	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0				
	Ethylbenzene	µg/L	1	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0				
	Xylene (m & p)	µg/L	1	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0				
	Xylene (o)	µg/L	1	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0				
	Xylene Total	µg/L	1	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0				
	Total BTEX	µg/L	1	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0				
Solvents	Methyl Ethyl Ketone	µg/L	5	<5	<5	0	<5	<50	0	<5	<5	0	<5	<50	0				
	2-hexanone (MBK)	µg/L	1	<1	<1	0	<1	<50	0	<1	<1	0	<1	<50	0				
	4-Methyl-2-pentanone	µg/L	5	<5	<5	0	<5	<50	0	<5	<5	0	<5	<50	0				
	Acetone	mg/L	0.02	<0.02	<0.02	0	<0.02	-	-	<0.02	<0.02	0	<0.02	-	-				
	Acrylonitrile	µg/L	50	<50	<50	0	<50	-	-	<50	<50	0	<50	-	-				
	Allyl chloride	mg/L	0.001	<0.001	<0.001	0	<0.001	-	-	<0.001	<0.001	0	<0.001	-	-				
	Carbon disulfide	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0				
	MTBE	mg/L	0.001	<0.001	<0.001	0	<0.001	-	-	<0.001	<0.001	0	<0.001	-	-				
TRH	Vinyl acetate	µg/L	10	<10	<10	0	<10	<50	0	<10	<10	0	<10	<50	0				
	C6-C10 Fraction	µg/L	10	<10	<10	0	<10	<20	0	<10	<10	0	<10	<20	0				
	F1 (C6-C10 minus BTEX)	µg/L	10	<10	<10	0	<10	<20	0	<10	<10	0	<10	<20	0				
	>C10-C16 Fraction	µg/L	10	<10	<10	0	<10	<100	0	<10	<10	0	<10	<100	0				
	F2 (>C10-C16 minus naphthalene)	µg/L	10	<10	<10	0	<10	<100	0	<10	<10	0	<10	<100	0				
	F3 (C16-C34 Fraction)	µg/L	50	<50	<50	0	<50	<100	0	<50	<50	0	<50	<100	0				
	F4 (C34-C40 Fraction)	µg/L	50	<50	<50	0	<50	<100	0	<50	<50	0	<50	<100	0				
	>C10-C40 Fraction (Sum)	µg/L	50	<50	<50	0	<50	<100	0	<50	<50	0	<50	<100	0				
TPH	C6-C40 Fraction	µg/L	50	<50	<50	0	<50	-	-	<50	<50	0	<50	-	-				
	C6-C9 Fraction	µg/L	10	<10	<10	0	<10	<20	0	<10	<10	0	<10	<20	0				
	C10-C14 Fraction	µg/L	10	<10	<10	0	<10	<50	0	<10	<10	0	<10	<50	0				
	C15-C28 Fraction	µg/L	50	<50	<50	0	<50	<100	0	<50	<50	0	<50	<100	0				
	C29-C36 Fraction	µg/L	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0				
	C10-C36 Fraction (Sum)	µg/L	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0				
	C6-C36 Fraction	µg/L	50	<50	<50	0	<50	-	-	<50	<50	0	<50	-	-				
	1,2,3-trichlorobenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
Halogenated Benzenes	1,2,4-trichlorobenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,2-dichlorobenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,3,5-Trichlorobenzene	µg/L	1	<1	<1	0	<1	-	-	<1	<1	0	<1	-	-				
	1,3-dichlorobenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,4-dichlorobenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	2-chlorotoluene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	4-chlorotoluene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Bromobenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
Chlorinated Hydrocarbons	Chlorobenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Trichlorobenzene (total)	mg/L	0.001	<0.001	<0.001	0	<0.001	-	-	<0.001	<0.001	0	<0.001	-	-				
	1,1,1,2-tetrachloroethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,1,1-trichloroethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,1,2,2-tetrachloroethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,1,2-trichloroethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,1-dichloroethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,1-dichloroethene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,1-dichloropropene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,2,3-trichloropropane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,2-dibromo-3-chloropropane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,2-dichloroethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,2-Dichloroethene	µg/L	1	<1	<1	0	<1	-	-	<1	<1	0	<1	-	-				
	1,2-dichloropropane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	1,3-dichloropropane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	2,2-dichloropropane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Bromochloromethane	µg/L	1	<1	<1	0	<1	-	-	<1	<1	0	<1	-	-				
	Bromodichloromethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Bromoform	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Carbon tetrachloride	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Chlorodibromomethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Chloroethane	µg/L	1	<1	<1	0	<1	<50	0	<1	<1	0	<1	<50	0				
	Chloroform	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Chloromethane	µg/L	1	<1	<1	0	<1	<50	0	<1	<1	0	<1	<50	0				
	cis-1,2-dichloroethene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	cis-1,3-dichloropropene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Dibromomethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Dichloromethane	µg/L	10	<10	<10	0	<10	-	-	<10	<10	0	<10	-	-				
	Hexachlorobutadiene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Trichloroethene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Tetrachloroethene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	trans-1,2-dichloroethene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	trans-1,3-dichloropropene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5	0				
	Vinyl chloride	µg/L	1	<1	<1	0	<1	<50	0	<1	<1	0	<1	<50	0				

Table 6
QA/QC Results (Groundwater RPD)

		Field ID	T25-MW15	DUP02		T25-MW15	TRIP02		THEXT21-GW04	DUP03		THEXT21-GW04	TRIP03	
		Lab Report Number	PE184125	PE184125		PE184125	EP2510776		PE184202	PE184202		PE184202	EP2510927	
		Date	04 07 2025	04 07 2025		04 07 2025	04 07 2025		07 07 2025	07 07 2025		07 07 2025	07 07 2025	
		Matrix Type	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD
		Unit	EQL											
PAH	Total PAHs Vic EPA - assumes <LOR results = 0	µg/L	8	<8	<8	0	<8	-	-	<8	<8	0	<8	-
	Benzo(b+j+k)fluoranthene	mg/L	0.002	<0.002	<0.002	0	<0.002	-	-	<0.002	<0.002	0	<0.002	-
	Acenaphthene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Acenaphthylene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Anthracene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Benz(a)anthracene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Benzo(a)pyrene	µg/L	0.5	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5
	Benzo(b)fluoranthene	µg/L	1	<1	<1	0	<1	-	-	<1	<1	0	<1	-
	Benzo(b+j)fluoranthene	mg/L	0.001	-	-	-	-	<0.0010	-	-	-	-	<0.0010	-
	Benzo(g,h,i)perylene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Benzo(k)fluoranthene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Chrysene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Dibenz(a,h)anthracene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Fluoranthene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Fluorene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Naphthalene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Phenanthrene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Pyrene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0
	Benzo(a)pyrene TEQ calc (Zero)	mg/L	0.0005	-	-	-	-	<0.0005	-	-	-	-	<0.0005	-
Halogenated Hydrocarbons	PAHs (Sum of total)	µg/L	0.5	-	-	-	-	<0.5	-	-	-	-	<0.5	-
	1,2-dibromoethane	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5
	Bromomethane	µg/L	1	<1	<1	0	<1	<50	0	<1	<1	0	<1	<50
	Dichlorodifluoromethane	µg/L	1	<1	<1	0	<1	<50	0	<1	<1	0	<1	<50
	Iodomethane	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5
MAH	Trichlorofluoromethane	µg/L	1	<1	<1	0	<1	<50	0	<1	<1	0	<1	<50
	1,3,5-trimethylbenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5
	Isopropylbenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5
	n-butylbenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5
	n-propylbenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5
	p-isopropyltoluene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5
	sec-butylbenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5
	Styrene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5
VOCs	tert-butylbenzene	µg/L	1	<1	<1	0	<1	<5	0	<1	<1	0	<1	<5
	cis-1,4-Dichloro-2-butene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5
	trans-1,4-Dichloro-2-butene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5
Perfluoroalkyl Sulfonamides	Total Trihalomethane	µg/L	2	<2	<2	0	<2	-	-	<2	<2	0	<2	-
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.0005	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.0005
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.001	<0.0025	<0.0025	0	<0.0025	<0.005	0	<0.0025	<0.0025	0	<0.0025	<0.001
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.0005	<0.0025	<0.0025	0	<0.0025	<0.002	0	<0.0025	<0.0025	0	<0.0025	<0.0005
	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.001	<0.0025	<0.0025	0	<0.0025	<0.005	0	<0.0025	<0.0025	0	<0.0025	<0.001
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.001	<0.0025	<0.0025	0	<0.0025	<0.005	0	<0.0025	<0.0025	0	<0.0025	<0.001
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.0005	<0.0025	<0.0025	0	<0.0025	<0.002	0	<0.0025	<0.0025	0	<0.0025	<0.0005
PFAS	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.001	<0.0025	<0.0025	0	<0.0025	<0.005	0	<0.0025	<0.0025	0	<0.0025	<0.001
	Perfluorobutanesulfonate	µg/L	0.001	<0.001	<0.001	0	<0.001	-	-	<0.001	<0.001	0	<0.001	-
	Perfluorononanesulfonic acid (PFNS)	mg/L	0.0000005	<0.0000005	<0.0000005	0	<0.0000005	<0.0000002	0	<0.0000005	<0.0000005	0	<0.0000005	<0.0000005
	Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	0	<0.002	<0.005	0	<0.002	<0.002	0	<0.002	-
	Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002	0	<0.0002	<0.002	0	0.0003	0.0005	50	0.0003	<0.0002
	Sum of PFAS	µg/L	0.0002	<0.006	<0.006	0	<0.006	<0.002	0	0.031	0.029	7	0.031	0.0321
	Sum of PFAS (WA DER List)	µg/L	0.0002	-	-	-	-	<0.002	-	-	-	-	-	0.0321
	Perfluoro-1-dodecanesulfonate	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-	<0.0005	<0.0005	0	<0.0005	-
Perfluoroalkane Carboxylic Acids	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0010	0.0010	0	0.0010	<0.01	0	0.010	0.010	0	0.010	0.0142
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	<0.002	0	0.0033	0.0036	9	0.0033	0.0047
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	<0.002	0	0.0097	0.0089	9	0.0097	0.0083
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	<0.002	0	0.0027	0.0028	4	0.0027	0.0032
	Perfluorooctanoic acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	0	<0.0002	<0.002	0	0.0023	0.0024	4	0.0023	0.0017
	Perfluorodecanoic acid (PFDA)	µg/L	0.0005	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	<0.001	0	<0.001	<0.0005
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.0005	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	<0.001	0	<0.001	<0.0005
	Perfluorononanoic acid (PFNA)	µg/L	0.0005	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	<0.001	0	<0.001	<0.0005
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.0005	<0.001	<0.001	0	<0.001	<0.005	0	<0.001	<0.001	0	<0.001	<0.0005
	Perfluorotridecanoic acid (PFTriDA)	µg/L	0.0005	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	<0.001	0	<0.001	<0.0005
Perfluoroalkane Sulfonic Acids	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.0005	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	<0.001	0	<0.001	<0.0005
	Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.002	-	-	-	-	<0.01	-	-	-	-	-	<0.0020
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.0005	-	-	-	-	<0.002	-	-	-	-	-	<0.0005
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.0005	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	<0.001	0	<0.001	<0.0005
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.0002	<0.0002	<0.0002	0	<0.0002	<0.002	0	0.0003	0.0005	50	0.0003	<0.0005
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	0	<0.0002	<0.002	0	<0.0002	<0.0002	0	<0.0002	<0.0005
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0002	<0.0002	<0.0002	0	<0.0002	<0.002	0	<0.0002	<0.0002	0	<0.0002	<0.0002
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	<0.002	0	<0.0005	<0.0005	0	<0.0005	<0.0005
(n:2) Fluorotelomer Sulfonic Acids	6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-	0.0025	0.0008	103	0.0025	-
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005	0	<0.0005	<0.0005	0	<0.0005	<0.001
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.001	-	-	-	-	<0.005	-	-	-	-	-	<0.001
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005	0	<0.0005	<0.0005	0	<0.0005	<0.001
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001	-	-	-	-	<0.005	-	-	-	-	-	<0.001

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QA/QC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 5 x EQL); 50 (5 - 30 x EQL); 50 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table 7
QA / QC Table (Surface water RPD)

Field ID Lab Report Number Date Matrix Type			SW03-DOWN	DUP01	RPD	SW03-DOWN	TRIP01	RPD
			PE184086	PE184093		PE184086	EP2510768	
			03 07 2025	03 07 2025		03 07 2025	03 07 2025	
			Water	Water		Water	Water	
	Unit	EQL						
Metals								
Aluminium	mg/L	0.005	12	0.81	175	12	-	-
Aluminium (filtered)	mg/L	0.005	0.044	0.056	24	0.044	0.05	13
Arsenic (filtered)	mg/L	0.0005	<0.0005	0.0006	18	<0.0005	-	-
Barium (filtered)	mg/L	0.0002	0.013	0.017	27	0.013	-	-
Beryllium (filtered)	mg/L	0.0001	<0.0001	<0.0001	0	<0.0001	-	-
Boron (filtered)	mg/L	0.005	0.021	0.025	17	0.021	-	-
Cadmium (filtered)	mg/L	0.00005	<0.00005	<0.00005	0	<0.00005	-	-
Calcium (filtered)	mg/L	1	-	-	-	-	14	-
Chromium (III+VI) (filtered)	mg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-
Cobalt (filtered)	mg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-
Copper (filtered)	mg/L	0.0005	0.0010	0.0024	82	0.0010	-	-
Iron	mg/L	0.005	2.9	0.38	154	2.9	-	-
Iron (filtered)	mg/L	0.005	0.081	0.1	21	0.081	0.10	21
Lead (filtered)	mg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-
Magnesium (filtered)	mg/L	1	-	-	-	-	4	-
Manganese (filtered)	mg/L	0.001	0.002	<0.001	67	0.002	<0.001	67
Mercury (filtered)	mg/L	0.00005	<0.00005	<0.00005	0	<0.00005	-	-
Nickel (filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	-	-
Potassium (filtered)	mg/L	1	-	-	-	-	2	-
Selenium (filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	-	-
Vanadium (filtered)	mg/L	0.0005	0.0016	0.0012	29	0.0016	-	-
Zinc (filtered)	mg/L	0.001	0.002	0.003	40	0.002	-	-
PFAS								
Perfluorobutanesulfonate	µg/L	0.001	<0.001	<0.001	0	<0.001	-	-
Perfluorononanesulfonic acid (PFNS)	mg/L	0.0000005	<0.0000005	<0.0000005	0	<0.0000005	<0.000002	0
Perfuolohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	0	<0.002	-	-
Sum of PFHxS and PFOS	µg/L	0.0002	0.0003	0.0060	181	0.0003	0.010	188
Sum of PFAS	µg/L	0.002	<0.006	0.015	86	<0.006	0.018	100
Sum of PFAS (WA DER List)	µg/L	0.002	-	-	-	-	0.018	-
Perfluoro-1-dodecanesulfonate	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-

Table 7
QA / QC Table (Surface water RPD)

Field ID Lab Report Number Date Matrix Type			SW03-DOWN	DUP01	RPD	SW03-DOWN	TRIP01	RPD
			PE184086	PE184093		PE184086	EP2510768	
			03 07 2025	03 07 2025		03 07 2025	03 07 2025	
			Water	Water		Water	Water	
	Unit	EQL						
Perfluoroalkane Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0020	0.0026	26	0.0020	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0017	0.0032	61	0.0017	0.003	55
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	0.003	143
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0006	0.0013	74	0.0006	<0.002	0
Perfluorooctanoic acid (PFOA)	µg/L	0.0002	<0.0002	0.0016	156	<0.0002	0.002	164
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.002	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.002	0
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.002	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.005	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.002	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.002	0
Perfluoroalkane Sulfonic Acids								
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.002	-	-	-	-	<0.002	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.002	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.0002	<0.0002	0.0026	171	<0.0002	0.004	181
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	0	<0.0002	<0.002	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0002	0.0003	0.0034	168	0.0003	0.006	181
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	<0.002	0
(n:2) Fluorotelomer Sulfonic Acids								
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005	-	-	-	-	<0.005	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.005	-	-	-	-	<0.005	-
Other								
Acidity (as CaCO3)	mg/L	1	-	-	-	-	2	-
VOCs								
cis-1,4-Dichloro-2-butene	µg/L	5	<5	<5	0	<5	<5	0
trans-1,4-Dichloro-2-butene	µg/L	5	<5	<5	0	<5	<5	0
Total Trihalomethane	µg/L	2	<2	<2	0	<2	-	-

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 5 x EQL); 30 (5 - 30 x EQL); 30 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table 8
QA/QC Results (Rinsate, Field Blanks)

		Field ID	FB/TB	FB/TB01	FB/TB01	RB01	RB02	RINS02	RINS03
		Lab Report Number	PE184202	PE184093	PE184125	PE184093	PE184093	PE184125	PE184202
		Date	07 07 2025	03 07 2025	04 07 2025	03 07 2025	03 07 2025	04 07 2025	07 07 2025
		Matrix Type	Water	Water	Water	Water	Water	Water	Water
		Unit	EQL						
Metals	Arsenic (filtered)	mg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Cadmium (filtered)	mg/L	0.00005	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	Chromium (III+VI) (filtered)	mg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Copper (filtered)	mg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Lead (filtered)	mg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Mercury (filtered)	mg/L	0.00005	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	Nickel (filtered)	mg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
	Zinc (filtered)	mg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
BTEX	Naphthalene (BTEX)	mg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
	Benzene	µg/L	1	-	<1	<1	<1	<1	<1
	Toluene	µg/L	1	-	<1	<1	<1	<1	<1
	Ethylbenzene	µg/L	1	-	<1	<1	<1	<1	<1
	Xylene (m & p)	µg/L	1	-	<1	<1	<1	<1	<1
	Xylene (o)	µg/L	1	-	<1	<1	<1	<1	<1
	Xylene Total	µg/L	1	-	<1	<1	<1	<1	<1
	Total BTEX	µg/L	1	-	<1	<1	<1	<1	<1
TRH	C6-C10 Fraction	µg/L	10	<10	<10	<10	<10	<10	<10
	F1 (C6-C10 minus BTEX)	µg/L	10	<10	<10	<10	<10	<10	<10
	>C10-C16 Fraction	µg/L	10	<10	<10	<10	<10	<10	<10
	F2 (>C10-C16 minus naphthalene)	µg/L	10	<10	<10	<10	<10	<10	<10
	F3 (C16-C34 Fraction)	µg/L	50	<50	<50	<50	<50	<50	<50
	F4 (C34-C40 Fraction)	µg/L	50	<50	<50	<50	<50	<50	<50
	>C10-C40 Fraction (Sum)	µg/L	50	<50	<50	<50	<50	<50	<50
	C6-C40 Fraction	µg/L	50	<50	<50	<50	<50	<50	<50
TPH	C6-C9 Fraction	µg/L	10	<10	<10	<10	<10	<10	<10
	C10-C14 Fraction	µg/L	10	<10	<10	<10	<10	<10	<10
	C15-C28 Fraction	µg/L	50	<50	<50	<50	<50	<50	<50
	C29-C36 Fraction	µg/L	50	<50	<50	<50	<50	<50	<50
	C10-C36 Fraction (Sum)	µg/L	50	<50	<50	<50	<50	<50	<50
	C6-C36 Fraction	µg/L	50	<50	<50	<50	<50	<50	<50
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	1	<1	-	-	-	-	-
	1,2,4-trichlorobenzene	µg/L	1	<1	-	-	-	-	-
	1,2-dichlorobenzene	µg/L	1	<1	-	-	-	-	-
	1,3,5-Trichlorobenzene	µg/L	1	<1	-	-	-	-	-
	1,3-dichlorobenzene	µg/L	1	<1	-	-	-	-	-
	1,4-dichlorobenzene	µg/L	1	<1	-	-	-	-	-
	2-chlorotoluene	µg/L	1	<1	-	-	-	-	-
	4-chlorotoluene	µg/L	1	<1	-	-	-	-	-
	Bromobenzene	µg/L	1	<1	-	-	-	-	-
	Chlorobenzene	µg/L	1	<1	-	-	-	-	-
Chlorinated Hydrocarbons	Trichlorobenzene (total)	mg/L	0.001	<0.001	-	-	-	-	-
	1,1,1,2-tetrachloroethane	µg/L	1	<1	-	-	-	-	-
	1,1,1-trichloroethane	µg/L	1	<1	-	-	-	-	-
	1,1,2,2-tetrachloroethane	µg/L	1	<1	-	-	-	-	-
	1,1,2-trichloroethane	µg/L	1	<1	-	-	-	-	-
	1,1-dichloroethane	µg/L	1	<1	-	-	-	-	-
	1,1-dichloroethene	µg/L	1	<1	-	-	-	-	-
	1,1-dichloropropene	µg/L	1	<1	-	-	-	-	-
	1,2,3-trichloropropane	µg/L	1	<1	-	-	-	-	-
	1,2-dibromo-3-chloropropane	µg/L	1	<1	-	-	-	-	-
	1,2-dichloroethane	µg/L	1	<1	-	-	-	-	-
	1,2-Dichloroethene	µg/L	1	<1	-	-	-	-	-
	1,2-dichloropropane	µg/L	1	<1	-	-	-	-	-
	1,3-dichloropropane	µg/L	1	<1	-	-	-	-	-
	2,2-dichloropropane	µg/L	1	<1	-	-	-	-	-
	Bromochloromethane	µg/L	1	<1	-	-	-	-	-
	Bromodichloromethane	µg/L	1	<1	-	-	-	-	-
	Bromoform	µg/L	1	<1	-	-	-	-	-
	Carbon tetrachloride	µg/L	1	<1	-	-	-	-	-
	Chlorodibromomethane	µg/L	1	<1	-	-	-	-	-
	Chloroethane	µg/L	1	<1	-	-	-	-	-
	Chloroform	µg/L	1	<1	-	-	-	-	-
	Chloromethane	µg/L	1	<1	-	-	-	-	-
	cis-1,2-dichloroethene	µg/L	1	<1	-	-	-	-	-
	cis-1,3-dichloropropene	µg/L	1	<1	-	-	-	-	-
	Dibromomethane	µg/L	1	<1	-	-	-	-	-
	Dichloromethane	µg/L	10	<10	-	-	-	-	-
	Hexachlorobutadiene	µg/L	1	<1	-	-	-	-	-
	Trichloroethene	µg/L	1	<1	-	-	-	-	-
	Tetrachloroethene	µg/L	1	<1	-	-	-	-	-

Table 8
QA/QC Results (Rinsate, Field Blanks)

		Field ID	FB/TB	FB/TB01	FB/TB01	RB01	RB02	RINS02	RINS03
		Lab Report Number	PE184202	PE184093	PE184125	PE184093	PE184093	PE184125	PE184202
		Date	07 07 2025	03 07 2025	04 07 2025	03 07 2025	03 07 2025	04 07 2025	07 07 2025
		Matrix Type	Water	Water	Water	Water	Water	Water	Water
		Unit	EQL						
	trans-1,2-dichloroethene	µg/L	1	<1	-	-	-	-	-
	trans-1,3-dichloropropene	µg/L	1	<1	-	-	-	-	-
	Vinyl chloride	µg/L	1	<1	-	-	-	-	-
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	1	<1	-	-	-	-	-
	Bromomethane	µg/L	1	<1	-	-	-	-	-
	Dichlorodifluoromethane	µg/L	1	<1	-	-	-	-	-
	Trichlorofluoromethane	µg/L	1	<1	-	-	-	-	-
	1,2,4-trimethylbenzene	µg/L	1	<1	-	-	-	-	-
MAH	1,3,5-trimethylbenzene	µg/L	1	<1	-	-	-	-	-
	Isopropylbenzene	µg/L	1	<1	-	-	-	-	-
	n-butylbenzene	µg/L	1	<1	-	-	-	-	-
	n-propylbenzene	µg/L	1	<1	-	-	-	-	-
	p-isopropyltoluene	µg/L	1	<1	-	-	-	-	-
	sec-butylbenzene	µg/L	1	<1	-	-	-	-	-
	Styrene	µg/L	1	<1	-	-	-	-	-
	tert-butylbenzene	µg/L	1	<1	-	-	-	-	-
	Total Trihalomethane	µg/L	2	<2	-	-	-	-	-
VOCs									
Perfluoroalkyl Sulfonamides	Perfluorooctane sulfonamide (FOSA)	µg/L	0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
PFAS	Perfluorobutanesulfonate	µg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
	Perfluorononanesulfonic acid (PFNS)	mg/L	0.0000005	-	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005
	Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002
	Sum of PFHxS and PFOS	µg/L	0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Sum of PFAS	µg/L	0.006	-	<0.006	<0.006	<0.006	<0.006	<0.006
	Perfluoro-1-dodecanesulfonate	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroalkane Carboxylic Acids	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Perfluorooctanoic acid (PFOA)	µg/L	0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
	Perfluorononanoic acid (PFNA)	µg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoroalkane Sulfonic Acids	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
(n:2) Fluorotelomer Sulfonic Acids	6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Appendix A

Photograph Log

Site Photographs



Photo: 01

Description: Surface Water Location SW01-DOWN

Details: Photographed by WEPL staff on 03 July 2025

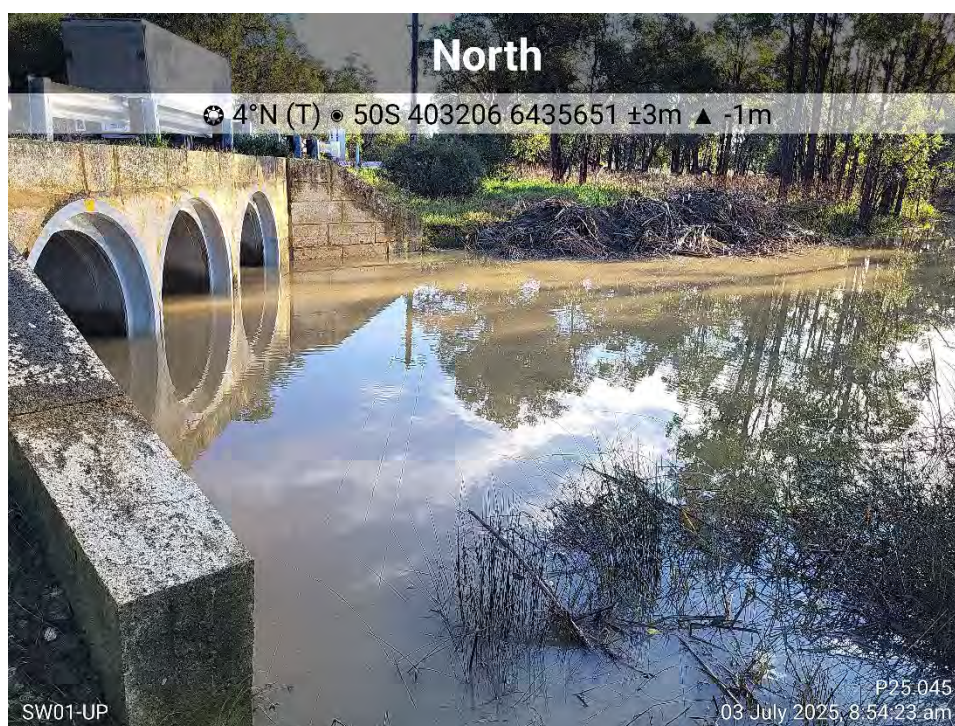


Photo: 02

Description: Surface Water Location SW01-UP

Details: Photographed by WEPL staff on 03 July 2025

Site Photographs



Photo: 03

Description: Surface Water Location SW02-UP

Details: Photographed by WEPL staff on 03 July 2025

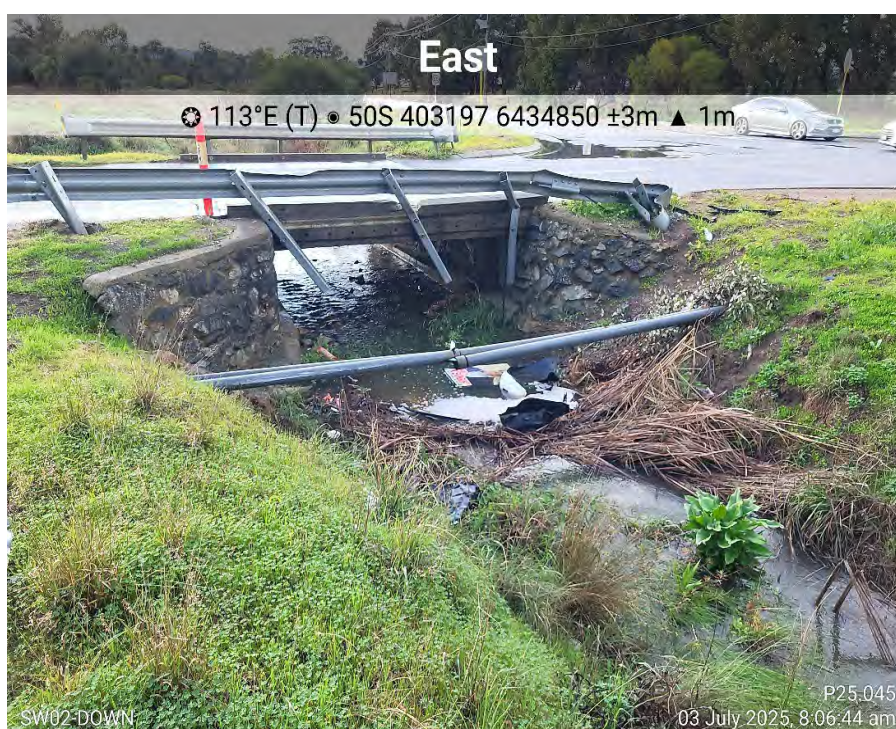


Photo: 04

Description: Surface Water Location SW02-DOWN

Details: Photographed by WEPL staff on 03 July 2025

Site Photographs



Photo: 05

Description: Surface Water Location SW03-DOWN

Details: Photographed by WEPL staff on 03 July 2025

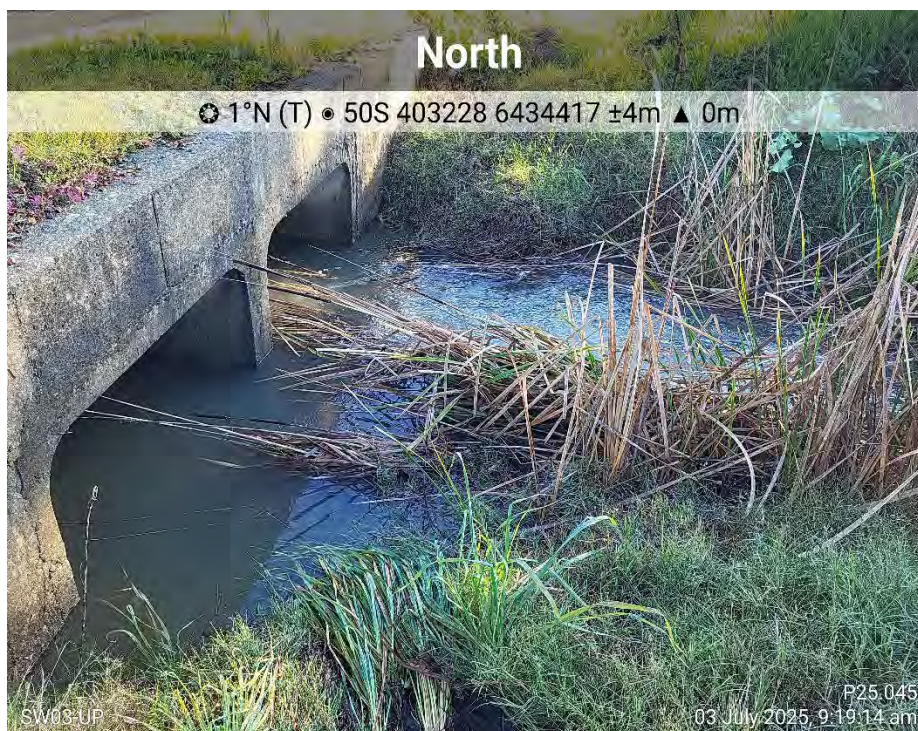


Photo: 06

Description: Surface Water Location SW03-UP

Details: Photographed by WEPL staff on 03 July 2025

Site Photographs

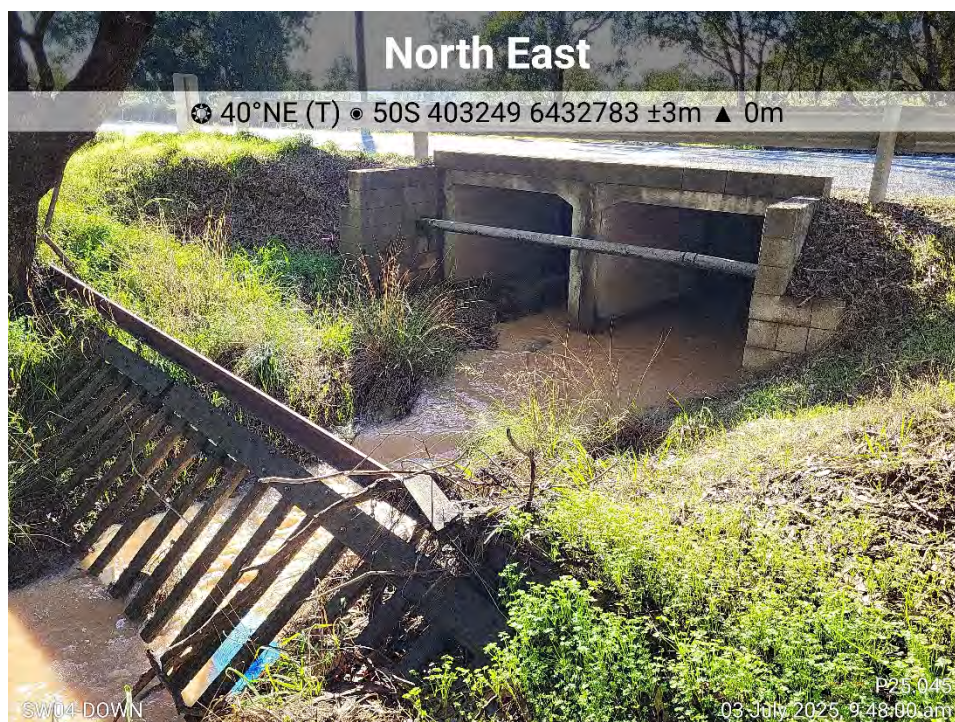


Photo: 07

Description: Surface Water Location SW04-DOWN

Details: Photographed by WEPL staff on 03 July 2025

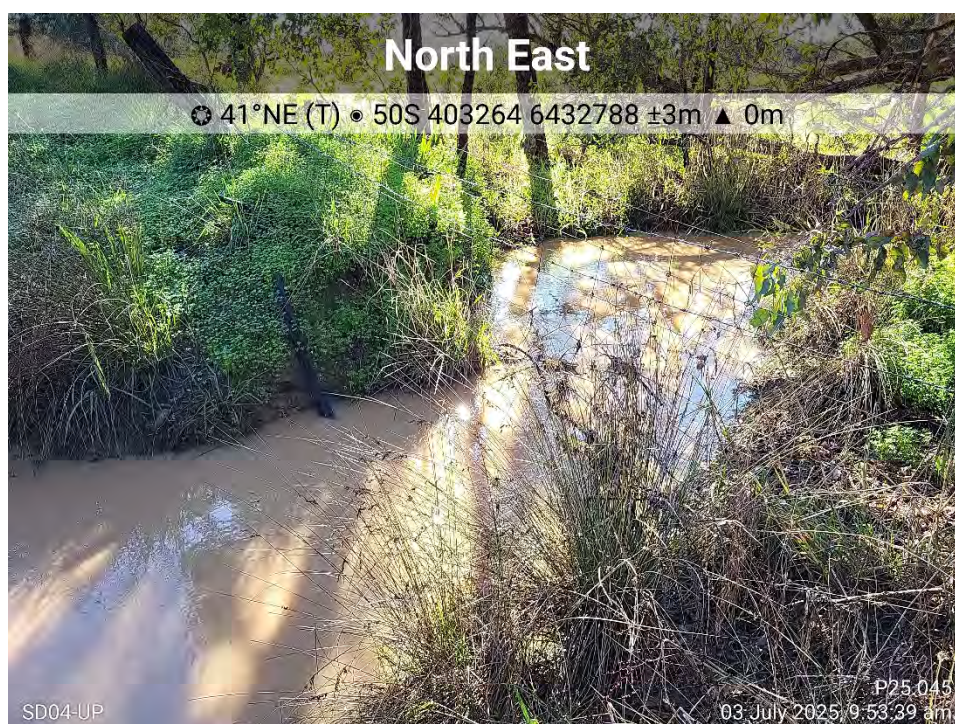


Photo: 08

Description: Surface Water Location SW04-UP

Details: Photographed by WEPL staff on 03 July 2025

Site Photographs

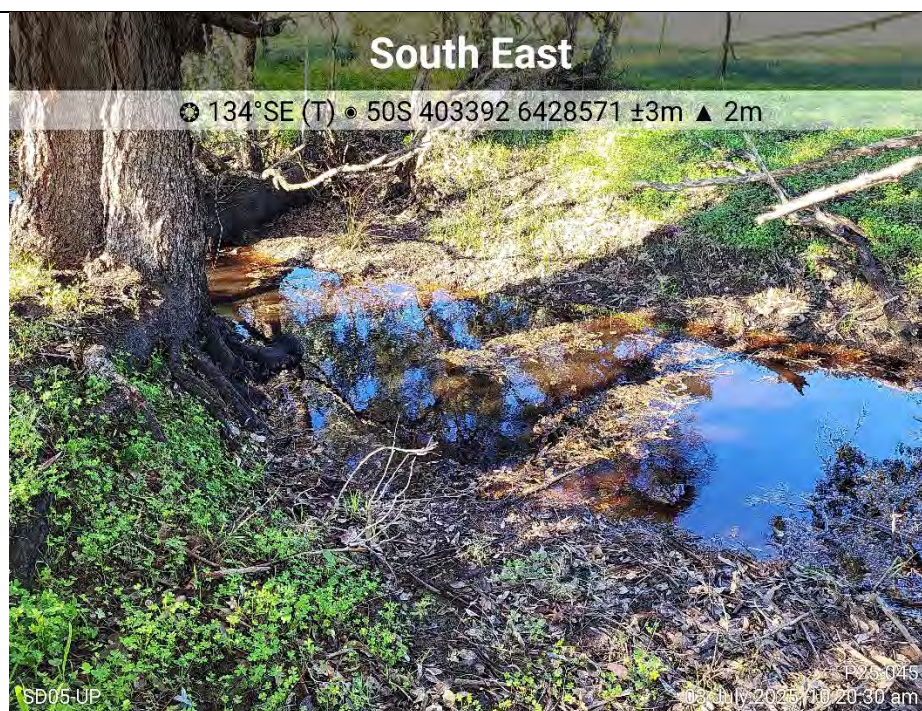


Photo: 09

Description: Surface Water Location SW05-UP

Details: Photographed by WEPL staff on 03 July 2025



Photo: 10

Description: Surface Water Location SW05-DOWN

Details: Photographed by WEPL staff on 03 July 2025

Site Photographs



Photo: 11

Description: Surface Water Location SW06-DOWN

Details: Photographed by WEPL staff on 03 July 2025

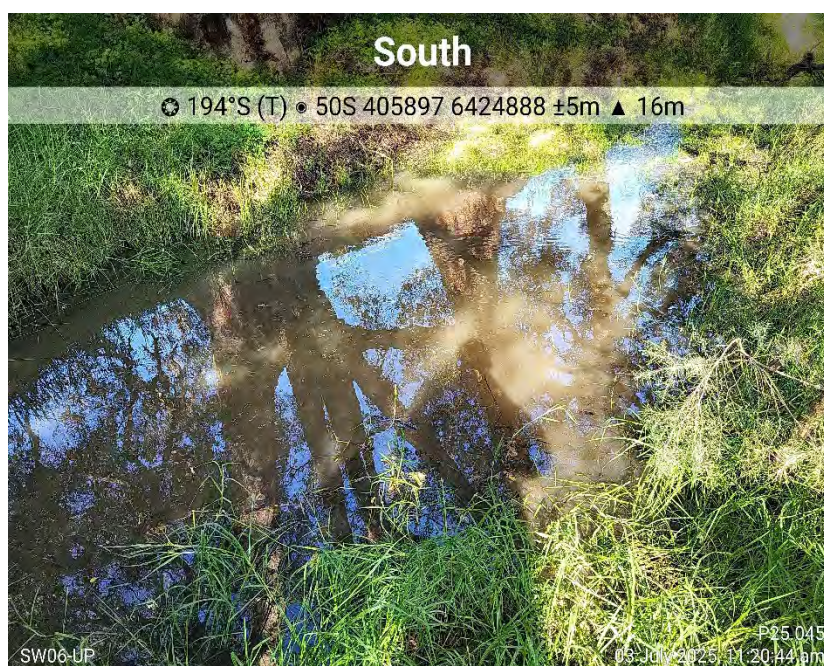


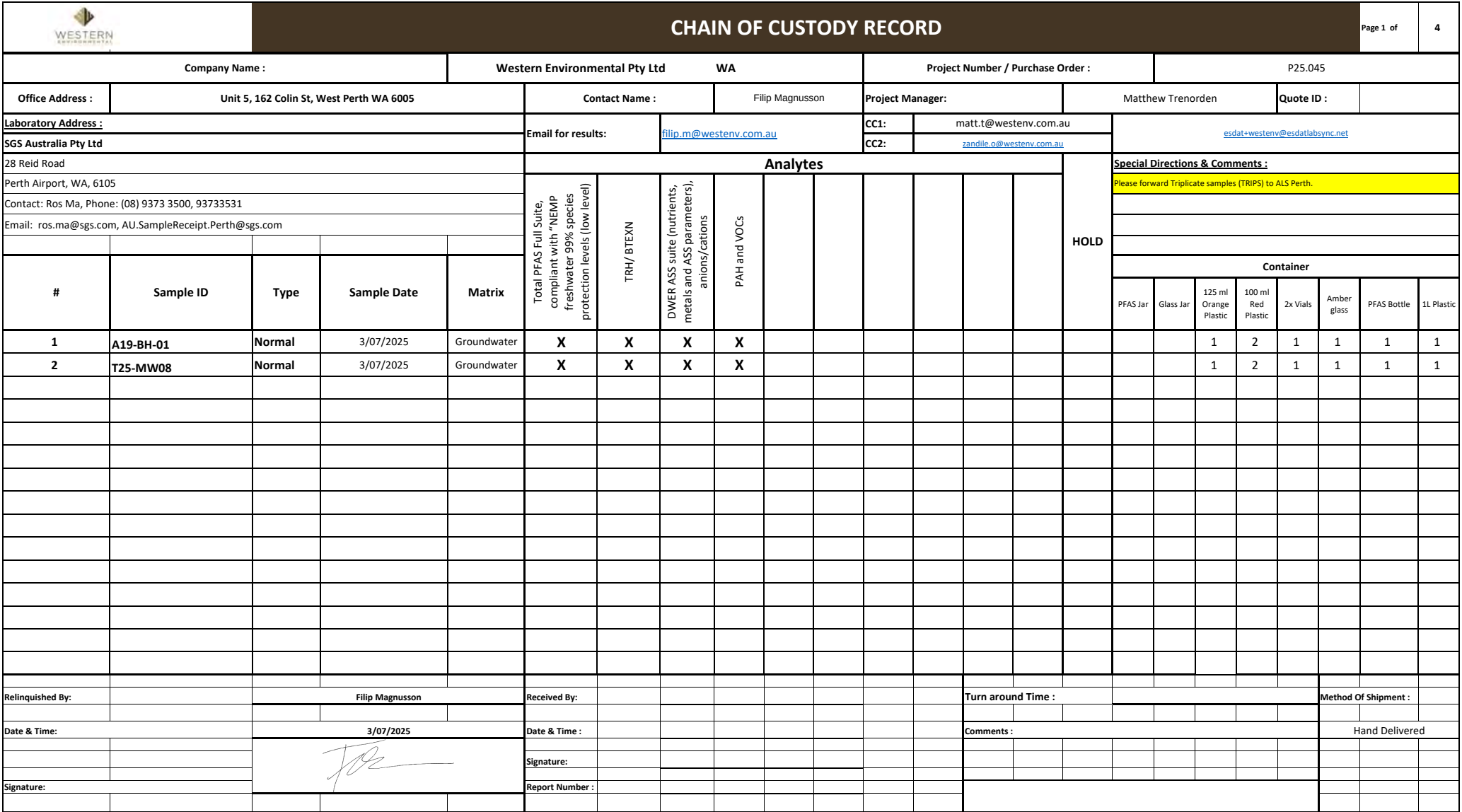
Photo: 12

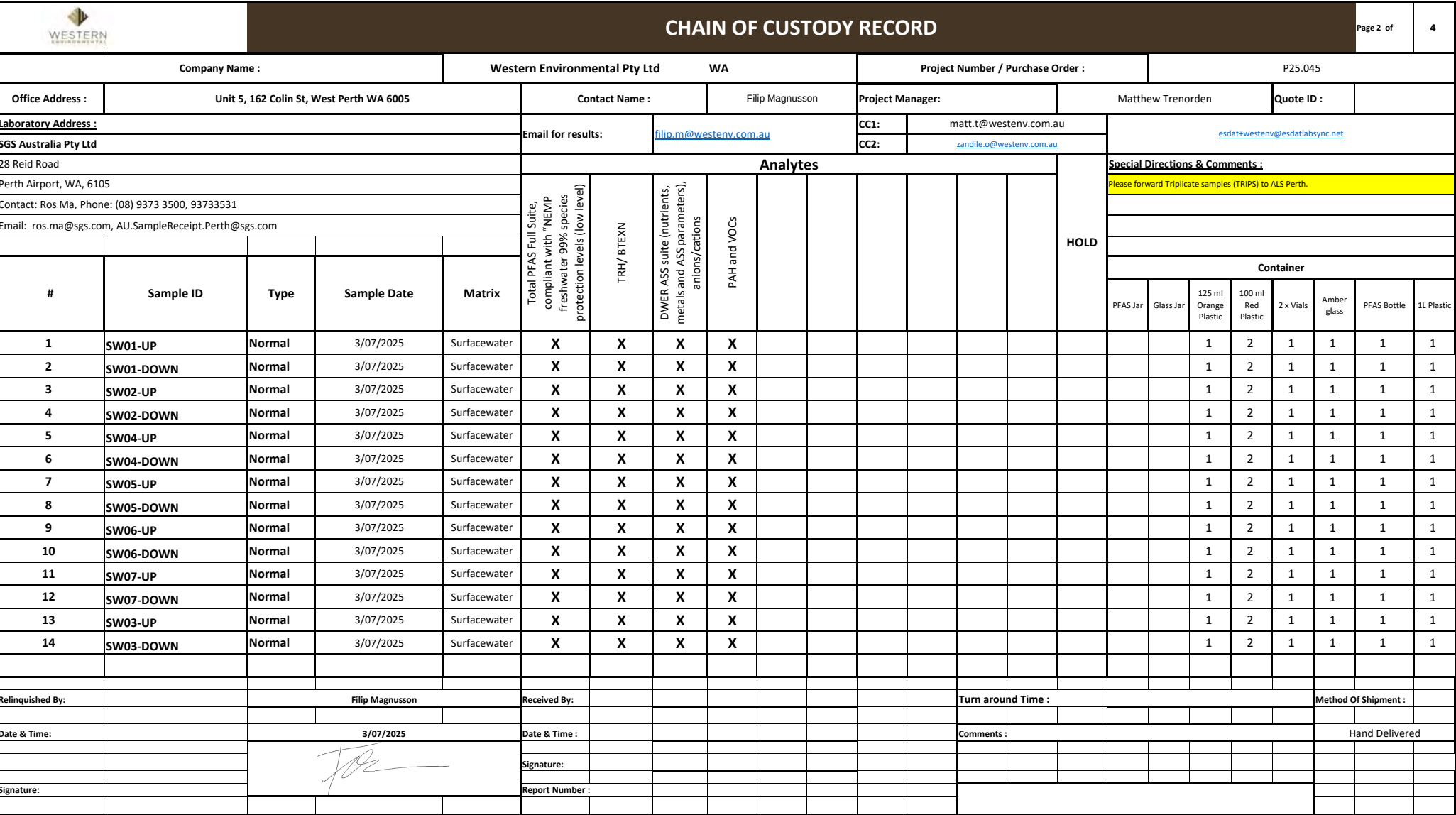
Description: Surface Water Location SW06-UP

Details: Photographed by WEPL staff on 03 July 2025

Appendix B

Laboratory Documentation





CHAIN OF CUSTODY RECORD



CLIENT DETAILS

Contact **Filip M**
 Client **WESTERN ENVIRONMENTAL**
 Address **PO BOX 437
 LEEDERVILLE WA 6903**

Telephone **61 8 61628980**
 Facsimile **(Not specified)**
 Email **filip.m@westenv.com.au**

Project **P25.045**
 Order Number **P25.045**
 Samples **2**

LABORATORY DETAILS

Manager **Merene Hwang**
 Laboratory **SGS Perth Environmental**
 Address **28 Reid Rd
 Perth Airport WA 6105**

Telephone **(08) 9373 3500**
 Facsimile **(08) 9373 3556**
 Email **au.environmental.perth@sgs.com**

SGS Reference **PE184085 R0**
 Date Received **04 Jul 2025**
 Date Reported **15 Jul 2025**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(898).

8270D: Majority of surrogate recoveries within acceptance criteria.

Organics & PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number 2562 (14420), Report No: ME373574.

Metals: Dissolved Al, Ba, Fe & Mn : Spike recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).

Metals: The over range results on ICPMS Method AN318 were reported using ICPOES method AN320.

Metals: Total Al: Spike recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).

TDS in Water: Failed TDS percentage acceptance criteria for sample 1; sample result was confirmed by repeated EC and TDS analysis.

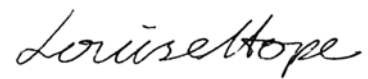
SIGNATORIES



Chiara CAPORALE
Team Leader



Hue Thanh LY
Metals Team Leader



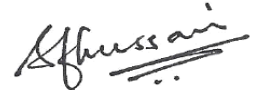
Louise HOPE
Laboratory Technician



Merene HWANG
Lab Manager



Murray O'NEILL
Lab Technician-Nutrients Signatory



Sanaa HUSSAIN
Chemist



ANALYTICAL REPORT

PE184085 R0

		Sample Number	PE184085.001	PE184085.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	A19-BH-01	T25-MW08
Parameter	Units	LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0077	0.0024
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0011	0.0014
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	0.0007
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	0.0006
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	0.0046	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	0.013	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	101
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	119	107
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	96	95
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	103	101
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	101	98
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	95	108
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	79	80
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	92	114
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	84	101
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	79	86
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	64	44
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	82	104
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	96	105
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	99	99
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	55	68
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	54	78
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	56	70
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	103	95
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	106	72
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	91	73
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	107	93
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	107	102
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	56	65
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	68	61

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025



ANALYTICAL REPORT

PE184085 R0

		Sample Number	PE184085.001	PE184085.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	A19-BH-01	T25-MW08
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

Benzene	mg/L	0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001



ANALYTICAL REPORT

PE184085 R0

		Sample Number	PE184085.001	PE184085.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	A19-BH-01	T25-MW08
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	104
1,2-Dichloroethane_D4 (Surrogate)	%	-	105	101
Dibromofluoromethane (Surrogate)	%	-	102	98
p_Bromofluorobenzene (Surrogate)	%	-	95	93

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01



ANALYTICAL REPORT

PE184085 R0

		Sample Number	PE184085.001	PE184085.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	A19-BH-01	T25-MW08
Parameter	Units	LOR		

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 11/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 11/7/2025

Acenaphthene	µg/L	1	<1	<1
Acenaphthylene	µg/L	1	<1	<1
Anthracene	µg/L	1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2
Chrysene	µg/L	1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1
Fluoranthene	µg/L	1	<1	<1
Fluorene	µg/L	1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1
Naphthalene	µg/L	1	<1	<1
Phenanthrene	µg/L	1	<1	<1
Pyrene	µg/L	1	<1	<1
Total PAHs	µg/L	8	<8	<8
d14-p-terphenyl (Surrogate)	%	0.001	93	92
d5-nitrobenzene (Surrogate)	%	0.001	102	100
d6-phenol (Surrogate)	%	0.001	37	51
2-fluorobiphenyl (Surrogate)	%	0.001	69	61
2,4,6-tribromophenol (Surrogate)	%	0.001	87	100
2-fluorophenol (Surrogate)	%	0.001	92	132

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01



ANALYTICAL REPORT

PE184085 R0

		Sample Number	PE184085.001	PE184085.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	A19-BH-01	T25-MW08
Parameter	Units	LOR		

pH in water Method: AN101 Tested: 4/7/2025

pH**	pH Units	-	6.8	6.2
------	----------	---	-----	-----

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 4/7/2025

Conductivity @ 25 C	µS/cm	2	620	1800
---------------------	-------	---	-----	------

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 9/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	590	1200
---	------	----	-----	------

Acidity and Free CO₂ Method: AN140 Tested: 4/7/2025

Acidity to pH 8.3	mg CaCO ₃ /L	5	9	23
-------------------	-------------------------	---	---	----

Alkalinity Method: AN135 Tested: 4/7/2025

Total Alkalinity as CaCO ₃	mg/L	5	16	15
Carbonate Alkalinity as CO ₃	mg/L	1	<1	<1
Bicarbonate Alkalinity as HCO ₃	mg/L	5	19	18

Chloride by Discrete Analyser in Water Method: AN274 Tested: 8/7/2025

Chloride, Cl	mg/L	1	53	490
--------------	------	---	----	-----



ANALYTICAL REPORT

PE184085 R0

		Sample Number	PE184085.001	PE184085.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	A19-BH-01	T25-MW08
Parameter	Units	LOR		

Sulfate in water Method: AN275 Tested: 8/7/2025

Sulfate, SO ₄	mg/L	1	2	110
--------------------------	------	---	---	-----

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 8/7/2025

Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	0.37	0.36
--	------	------	------	------

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 8/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	6.0	3.0
-------------------------	------	------	-----	-----

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 14/7/2025

Total Nitrogen (calc)	mg/L	0.05	39	3.1
-----------------------	------	------	----	-----

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA Method: AN258 Tested: 8/7/2025

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	33	0.11

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 4/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	0.013	0.026
-------------------------------------	------	-------	-------	-------



ANALYTICAL REPORT

PE184085 R0

Parameter	Units	LOR	Sample Number	PE184085.001	PE184085.002
			Sample Matrix	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025
			Sample Name	A19-BH-01	T25-MW08

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 8/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.61	0.11
--	------	------	------	------

Redox Potential (Eh) in water Method: AN240 Tested: 4/7/2025

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	366	368
Temperature of Sample*	°C	0.1	23.9	23.7

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 4/7/2025

Temperature*	°C	-	18.2	18.0
Dissolved Oxygen**	mg/L	0.5	7.6	6.1
Dissolved Oxygen (percent saturation)**	%	1	80.4	64.0

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 9/7/2025

Aluminium	µg/L	5	820	190
Arsenic	µg/L	0.5	<0.5	0.8
Barium	µg/L	0.2	170	190
Beryllium	µg/L	0.1	0.1	<0.1
Boron	µg/L	5	26	45
Cadmium	µg/L	0.05	0.10	<0.05
Chromium	µg/L	0.5	3.0	1.6
Cobalt	µg/L	0.5	5.0	6.3
Copper	µg/L	0.5	3.4	7.3
Iron	µg/L	5	2300	10000
Lead	µg/L	0.5	2.2	<0.5
Manganese	µg/L	1	830	1500
Nickel	µg/L	1	3	7
Selenium	µg/L	1	<1	<1
Vanadium	µg/L	0.5	6.0	1.4
Zinc	µg/L	1	6	4

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 9/7/2025

Mercury	mg/L	0.00005	<0.00005	<0.00005
---------	------	---------	----------	----------



ANALYTICAL REPORT

PE184085 R0

		Sample Number	PE184085.001	PE184085.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	A19-BH-01	T25-MW08
Parameter	Units	LOR		

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 9/7/2025

Total Aluminium	µg/L	5	1900	1900
Total Iron	µg/L	5	2600	13000

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.

Acidity and Free CO₂ Method: ME-(AU)-[ENV]AN140

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acidity to pH 8.3	LB231609	mg CaCO ₃ /L	5	<5	0 - 2%	104%

Alkalinity Method: ME-(AU)-[ENV]AN135

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Alkalinity as CaCO ₃	LB231599	mg/L	5	<5	1%	100%
Carbonate Alkalinity as CO ₃	LB231599	mg/L	1	<1		
Bicarbonate Alkalinity as HCO ₃	LB231599	mg/L	5	<5		

Ammonia Nitrogen by FIA Method: ME-(AU)-[ENV]AN261/AN262

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Ammonia Nitrogen, NH ₃ as N	LB231576	mg/L	0.05	<0.05	0 - 5%	102%	101%

Chloride by Discrete Analyser in Water Method: ME-(AU)-[ENV]AN274

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Chloride, Cl	LB231596	mg/L	1	<1	3%	99%	94%

Conductivity and TDS by Calculation - Water Method: ME-(AU)-[ENV]AN106

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Conductivity @ 25 C	LB231605	µS/cm	2	<2	0 - 1%	101%

Dissolved Oxygen by Membrane Electrode Method: ME-(AU)-[ENV]AN176

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Temperature*	LB231606	°C	-	19.5		
Dissolved Oxygen**	LB231606	mg/L	0.5	<0.5	0%	115%
Dissolved Oxygen (percent saturation)**	LB231606	%	1	<1.0		

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.

Filterable Reactive Phosphorus (FRP) Method: ME-(AU)-[ENV]AN278

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Filterable Reactive Phosphorus as P	LB231563	mg/L	0.002	<0.002	0%	104%	105%

Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Mercury	LB231659	mg/L	0.00005	<0.00005	0%	114%	112%

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: ME-(AU)-[ENV]AN258

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Nitrite Nitrogen, NO ₂ as N	LB231576	mg/L	0.05	<0.05	0%	94%	94%
Nitrate Nitrogen, NO ₃ as N	LB231576	mg/L	0.05	<0.05	1 - 2%	NA	NA

pH in water Method: ME-(AU)-[ENV]AN101

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
pH**	LB231605	pH Units	-	5.6	0 - 1%	100%

Redox Potential (Eh) in water Method: ME-(AU)-[ENV]AN240

Parameter	QC Reference	Units	LOR	DUP %RPD	LCS %Recovery
Eh of Sample Relative to Standard H+ Electrode***	LB231604	mV	-500	0%	105%

Sulfate in water Method: ME-(AU)-[ENV]AN275

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Sulfate, SO ₄	LB231596	mg/L	1	<1	2 - 3%	93 - 98%	97 - 100%

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.

TKN Kjeldahl Digestion by Discrete Analyser Method: ME-(AU)-[ENV]AN281

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Kjeldahl Nitrogen	LB231593	mg/L	0.05	<0.05	9 - 11%	101%

Total Dissolved Solids (TDS) in water Method: ME-(AU)-[ENV]AN113

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Total Dissolved Solids Dried at 175-185°C	LB231627	mg/L	10	<10	0 - 2%	102%	104%	5%

Total Phosphorus by Kjeldahl Digestion DA in Water Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Phosphorus (Kjeldahl Digestion) as P	LB231592	mg/L	0.02	<0.02	7 - 38%	95%

Trace Metals (Dissolved) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Aluminium	LB231615	µg/L	5	<5	2 - 5%	102%	1232%
Arsenic	LB231615	µg/L	0.5	<0.5	0 - 2%	101%	103%
Barium	LB231615	µg/L	0.2	<0.2	0 - 4%	106%	75%
Beryllium	LB231615	µg/L	0.1	<0.1	0%	103%	94%
Boron	LB231615	µg/L	5	<5	1 - 5%	110%	94%
Cadmium	LB231615	µg/L	0.05	<0.05	0 - 4%	103%	100%
Chromium	LB231615	µg/L	0.5	<0.5	0 - 2%	106%	109%
Cobalt	LB231615	µg/L	0.5	<0.5	0 - 1%	105%	95%
Copper	LB231615	µg/L	0.5	<0.5	2 - 5%	105%	94%
Iron	LB231615	µg/L	5	<5	0 - 5%	119%	-648%
Lead	LB231615	µg/L	0.5	<0.5	0%	104%	98%
Manganese	LB231615	µg/L	1	<1	1 - 8%	103%	-384%
Nickel	LB231615	µg/L	1	<1	0 - 3%	113%	109%
Selenium	LB231615	µg/L	1	<1	0%	102%	103%
Vanadium	LB231615	µg/L	0.5	<0.5	1 - 4%	103%	111%
Zinc	LB231615	µg/L	1	<1	2 - 34%	118%	97%



QC SUMMARY

PE184085 R0

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.

Trace Metals (Total) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN022/AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Total Aluminium	LB231614	µg/L	5	<5	1 - 8%	103%	179%
Total Iron	LB231614	µg/L	5	<5	0 - 2%	NA	NA

METHOD

METHODOLOGY SUMMARY

AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
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 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. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN140	Acidity by Titration: The water sample is titrated with sodium hydroxide to designated pH end point. In a sample containing only carbon dioxide, bicarbonates and carbonates, titration to pH 8.3 at 25°C corresponds to stoichiometric neutralisation of carbonic acid to bicarbonate. Method reference APHA 2310 B.
AN176	Dissolved Oxygen: DO can also be measured directly using an oxygen permeable membrane electrode and meter. Under steady state conditions the current is directly proportional to the DO conc. DO can also be measured via Luminescent dissolved oxygen probes (LDO) which also operates using an oxygen permeable membrane with an oxygen sensitive luminescent dye making up the second probe layer. The presence of oxygen causes changes in the lifetime and intensity of luminescence, which are then quantified. Zero headspace is required for sample analysis, if headspace is observed report comment will be recorded. Reference APHA 4500-C, G & O.
AN240	Oxidation-Reduction Potential (Eh): Electrometric measurements are made by potentiometric determination of electron activity (or intensity) with an inert indicator electrode and a suitable reference electrode. At redox equilibrium, the potential difference between the two electrodes equals the redox potential of the system. This measurement is then corrected for the difference between the potential of the reference electrode and that of the standard hydrogen electrode.
AN258	Nitrate and Nitrite by FIA: In an acidic medium, nitrate is reduced quantitatively to nitrite by cadmium metal. This nitrite plus any original nitrite is determined as an intense red-pink azo dye at 540 nm following diazotisation with sulphanilamide and subsequent coupling with N-(1-naphthyl) ethylenediamine dihydrochloride. Without the cadmium reduction only the original nitrite is determined. Reference APHA 4500-NO3- F.
AN262	Ammonia in solution is reacted with o-phthalaldehyde (OPA) to form a fluorescent compound. The reaction product is detected by a fluorimeter and the response is measured via FIA using a photomultiplier detector. The response is directly proportional to the concentration of ammonia in the sample.

METHOD

METHODOLOGY SUMMARY

AN274	Chloride by Discrete Analyse: Chloride reacts with mercuric thiocyanate forming a mercuric chloride complex. In the presence of ferric iron, highly coloured ferric thiocyanate is formed which is proportional to the chloride concentration. Reference APHA 4500CI-
AN275	Sulfate by Discrete Analyse: sulfate is precipitated in an acidic medium with barium chloride. The resulting turbidity is measured photometrically at 405nm and compared with standard calibration solutions to determine the sulfate concentration in the sample. Reference APHA 4500-SO42-. Internal reference AN275.
AN278	Filterable Reactive Phosphorus by DA (determined on filtered sample): Orthophosphate reacts with ammonium molybdate (Mo VI) and potassium antimonyl tartrate (Sb III) in acid medium to form an antimony-phosphomolybdate complex. This complex is subsequently reduced with ascorbic acid to form a blue colour and the absorbance is read at 880 nm. The sensitivity of the automated method is 10-20 times that of the macro method. Reference APHA 4500-P F
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digester with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.
AN281/292	Calculation of total nitrogen and organic nitrogen.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: 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.
AN318	Determination of elements at trace level in waters by ICP-MS technique, referenced to USEPA 6020B and USEPA 200.8 (5.4).
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.
EPA 8260B-01	This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).
EPA8260B	Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

METHOD

METHODOLOGY SUMMARY

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40.

The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions".

Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS)

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC–QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting .

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

PE184085 R0

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 2

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

SGS Reference **PE184085 R0**
Date Received 04 Jul 2025
Date Reported 15 Jul 2025

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:

Surrogate	SVOC Compounds in Waters by GC-QQQ	2 items
Matrix Spike	Trace Metals (Dissolved) in Water by ICPMS TQe	4 items
	Trace Metals (Total) in Water by ICPMS TQe	1 item

SAMPLE SUMMARY

Date documentation received	4/7/2025	Sample counts by matrix	2 Water
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17.4-18.9°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4		



HOLDING TIME SUMMARY

PE184085 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 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.

Acidity and Free CO₂

Method: ME-(AU)-[ENV]AN140

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
T25-MW08	PE184085.002	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231599	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
T25-MW08	PE184085.002	LB231599	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
T25-MW08	PE184085.002	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
T25-MW08	PE184085.002	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025

Conductivity and TDS by Calculation - Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231605	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
T25-MW08	PE184085.002	LB231605	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
T25-MW08	PE184085.002	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
T25-MW08	PE184085.002	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231659	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
T25-MW08	PE184085.002	LB231659	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
T25-MW08	PE184085.002	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231605	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
T25-MW08	PE184085.002	LB231605	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
T25-MW08	PE184085.002	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
T25-MW08	PE184085.002	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
T25-MW08	PE184085.002	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref
-------------	------------	--------



HOLDING TIME SUMMARY

PE184085 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 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.

Total Dissolved Solids (TDS) in water (continued)

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231627	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
T25-MW08	PE184085.002	LB231627	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
T25-MW08	PE184085.002	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
T25-MW08	PE184085.002	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
A19-BH-01	PE184085.001	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
T25-MW08	PE184085.002	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025



SURROGATES

PE184085 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-PFTeDA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	79
	T25-MW08	PE184085.002	%	10 - 150%	86
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	55
	T25-MW08	PE184085.002	%	10 - 150%	68
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	54
	T25-MW08	PE184085.002	%	10 - 150%	78
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	56
	T25-MW08	PE184085.002	%	10 - 150%	70
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	84
	T25-MW08	PE184085.002	%	10 - 150%	101
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	64
	T25-MW08	PE184085.002	%	10 - 150%	44
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	82
	T25-MW08	PE184085.002	%	10 - 150%	104
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	96
	T25-MW08	PE184085.002	%	10 - 150%	105
(13C4-PFOA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	101
	T25-MW08	PE184085.002	%	10 - 150%	98
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	100
	T25-MW08	PE184085.002	%	10 - 150%	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	103
	T25-MW08	PE184085.002	%	10 - 150%	101
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	96
	T25-MW08	PE184085.002	%	10 - 150%	95
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	119
	T25-MW08	PE184085.002	%	10 - 150%	107
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	79
	T25-MW08	PE184085.002	%	10 - 150%	80
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	92
	T25-MW08	PE184085.002	%	10 - 150%	114
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	99
	T25-MW08	PE184085.002	%	10 - 150%	99
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	103
	T25-MW08	PE184085.002	%	10 - 150%	95
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	95
	T25-MW08	PE184085.002	%	10 - 150%	108
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	106
	T25-MW08	PE184085.002	%	10 - 150%	72
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	56
	T25-MW08	PE184085.002	%	10 - 150%	65
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	91
	T25-MW08	PE184085.002	%	10 - 150%	73
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	68
	T25-MW08	PE184085.002	%	10 - 150%	61
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	107
	T25-MW08	PE184085.002	%	10 - 150%	93
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	A19-BH-01	PE184085.001	%	10 - 150%	107
	T25-MW08	PE184085.002	%	10 - 150%	102

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	A19-BH-01	PE184085.001	%	40 - 130%	87
	T25-MW08	PE184085.002	%	40 - 130%	100
2-fluorobiphenyl (Surrogate)	A19-BH-01	PE184085.001	%	40 - 130%	69
	T25-MW08	PE184085.002	%	40 - 130%	61
2-fluorophenol (Surrogate)	A19-BH-01	PE184085.001	%	40 - 130%	92
	T25-MW08	PE184085.002	%	40 - 130%	132 ↑
d14-p-terphenyl (Surrogate)	A19-BH-01	PE184085.001	%	40 - 130%	93
	T25-MW08	PE184085.002	%	40 - 130%	92
d5-nitrobenzene (Surrogate)	A19-BH-01	PE184085.001	%	40 - 130%	102
	T25-MW08	PE184085.002	%	40 - 130%	100



SURROGATES

PE184085 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d6-phenol (Surrogate)	A19-BH-01	PE184085.001	%	40 - 130%	37 ↑
	T25-MW08	PE184085.002	%	40 - 130%	51

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	A19-BH-01	PE184085.001	%	60 - 130%	105
	T25-MW08	PE184085.002	%	60 - 130%	101
Dibromofluoromethane (Surrogate)	A19-BH-01	PE184085.001	%	60 - 130%	102
	T25-MW08	PE184085.002	%	60 - 130%	98
p_Bromofluorobenzene (Surrogate)	A19-BH-01	PE184085.001	%	60 - 130%	95
	T25-MW08	PE184085.002	%	60 - 130%	93
Toluene-d8 (surrogate)	A19-BH-01	PE184085.001	%	60 - 130%	103
	T25-MW08	PE184085.002	%	60 - 130%	104



METHOD BLANKS

PE184085 R0

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.

Acidity and Free CO₂

Method: ME-(AU)-[ENV]AN140

Sample Number	Parameter	Units	LOR	Result
LB231609.001	Acidity to pH 8.3	mg CaCO ₃ /L	5	<5

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB231599.001	Total Alkalinity as CaCO ₃	mg/L	5	<5

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Number	Parameter	Units	LOR	Result
LB231576.001	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	<0.05

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result
LB231596.001	Chloride, Cl	mg/L	1	<1
LB231596.025	Chloride, Cl	mg/L	1	<1

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result
LB231605.001	Conductivity @ 25 C	µS/cm	2	<2

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Number	Parameter	Units	LOR	Result
LB231606.001	Dissolved Oxygen**	mg/L	0.5	<0.5

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result
LB231563.001	Filterable Reactive Phosphorus as P	mg/L	0.002	<0.002

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB231659.001	Mercury	mg/L	0.00005	<0.00005

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Number	Parameter	Units	LOR	Result
LB231576.001	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05
	Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05
LB231576.027	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05
	Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result
LB231605.001	pH**	pH Units	-	5.6

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR	Result
LB231596.001	Sulfate, SO ₄	mg/L	1	<1
LB231596.025	Sulfate, SO ₄	mg/L	1	<1



METHOD BLANKS

PE184085 R0

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.

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result
LB231593.001	Total Kjeldahl Nitrogen	mg/L	0.05	<0.05

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result
LB231627.001	Total Dissolved Solids Dried at 175-185°C	mg/L	10	<10

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result
LB231592.001	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB231615.001	Aluminium	µg/L	5	<5
	Arsenic	µg/L	0.5	<0.5
	Barium	µg/L	0.2	<0.2
	Beryllium	µg/L	0.1	<0.1
	Boron	µg/L	5	<5
	Cadmium	µg/L	0.05	<0.05
	Chromium	µg/L	0.5	<0.5
	Cobalt	µg/L	0.5	<0.5
	Copper	µg/L	0.5	<0.5
	Iron	µg/L	5	<5
	Lead	µg/L	0.5	<0.5
	Manganese	µg/L	1	<1
	Nickel	µg/L	1	<1
	Selenium	µg/L	1	<1
	Vanadium	µg/L	0.5	<0.5
	Zinc	µg/L	1	<1

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB231614.001	Total Aluminium	µg/L	5	<5



DUPLICATES

PE184085 R0

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.

Acidity and Free CO₂

Method: ME-(AU)-[ENV]AN140

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.007	LB231609.013	Acidity to pH 8.3	mg CaCO ₃ /L	5	8	8	76	2
PE184086.014	LB231609.021	Acidity to pH 8.3	mg CaCO ₃ /L	5	<5	<5	200	0

Alkalinity

Method: ME-(AU)-[ENV]AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.001	LB231599.009	Total Alkalinity as CaCO ₃	mg/L	5	56	55	24	1

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231576.014	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	0.10	0.10	66	5
PE184104.004	LB231576.025	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	<0.05	<0.05	200	0

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.009	LB231596.028	Chloride, Cl	mg/L	1	60	62	17	3

Conductivity and TDS by Calculation - Water

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE182379.001	LB231605.014	Conductivity @ 25 C	µS/cm	2	1700	1700	15	0
PE184086.001	LB231605.026	Conductivity @ 25 C	µS/cm	2	240	240	16	1

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231606.013	Dissolved Oxygen**	mg/L	0.5	7.0	7.0	22	0
PE184125.004	LB231606.027	Dissolved Oxygen**	mg/L	0.5	3.6	3.6	29	0

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.010	LB231563.025	Filterable Reactive Phosphorus as P	mg/L	0.002	0.003	0.004	152	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184099.008	LB231659.014	Mercury	µg/L	0.00005	<0.00005	<0.00005	200	0
PE184104.004	LB231659.020	Mercury	µg/L	0.00005	<0.00005	<0.00005	194	0

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA

Method: ME-(AU)-[ENV]AN258

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231576.014	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	200	0
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.19	0.19	41	2
PE184104.004	LB231576.029	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	200	0
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.20	0.20	40	1

pH in water

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE182379.001	LB231605.013	pH**	pH Units	-	8.1	8.1	16	0
PE184086.001	LB231605.025	pH**	pH Units	-	7.7	7.8	16	1

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Original	Duplicate	Parameter	Units	LOR
----------	-----------	-----------	-------	-----

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.

Redox Potential (Eh) in water (continued)

Method: ME-(AU)-[ENV]AN240

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231604.013	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	362	362	15	0
PE184086.014	LB231604.021	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	346	348	15	0

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE181631.001	LB231596.041	Sulfate, SO4	mg/L	1	150	150	16	3
PE182379.001	LB231596.043	Sulfate, SO4	mg/L	1	460	470	15	2
PE184057.001	LB231596.014	Sulfate, SO4	mg/L	1	410	400	15	3

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.010	LB231593.013	Total Kjeldahl Nitrogen	mg/L	0.05	0.99	0.91	20	9
PE184104.004	LB231593.024	Total Kjeldahl Nitrogen	mg/L	0.05	1.0	0.95	20	7
PE184125.003	LB231593.031	Total Kjeldahl Nitrogen	mg/L	0.05	0.15	0.17	47	11

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184085.001	LB231627.015	Total Dissolved Solids Dried at 175-185°C	mg/L	10	590	590	17	0
PE184194.001	LB231627.026	Total Dissolved Solids Dried at 175-185°C	mg/L	10	430	430	17	2

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.010	LB231592.013	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.12	0.11	33	6
PE184104.004	LB231592.024	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.13	0.14	30	7
PE184125.003	LB231592.031	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.03	0.05	63	38

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231615.014	Aluminium	µg/L	5	260	250	17	2
		Arsenic	µg/L	0.5	0.9	0.9	72	2
		Barium	µg/L	0.2	34	34	16	0
		Beryllium	µg/L	0.1	<0.1	<0.1	200	0
		Boron	µg/L	5	43	43	27	1
		Cadmium	µg/L	0.05	0.07	0.06	93	4
		Chromium	µg/L	0.5	0.9	0.9	72	2
		Cobalt	µg/L	0.5	1.1	1.1	60	1
		Copper	µg/L	0.5	3.6	3.6	29	2
		Iron	µg/L	5	2800	2800	15	0
		Lead	µg/L	0.5	<0.5	<0.5	191	0
		Manganese	µg/L	1	69	68	16	1
		Nickel	µg/L	1	1	1	91	3
		Selenium	µg/L	1	<1	<1	200	0
		Vanadium	µg/L	0.5	1.5	1.5	49	1
PE184086.014	LB231615.021	Zinc	µg/L	1	16	16	21	2
		Aluminium	µg/L	5	44	41	27	5
		Arsenic	µg/L	0.5	<0.5	<0.5	200	0
		Barium	µg/L	0.2	13	14	16	4
		Beryllium	µg/L	0.1	<0.1	<0.1	200	0
		Boron	µg/L	5	21	20	39	5
		Cadmium	µg/L	0.05	<0.05	<0.05	200	0
		Chromium	µg/L	0.5	<0.5	<0.5	200	0
		Cobalt	µg/L	0.5	<0.5	<0.5	200	0
		Copper	µg/L	0.5	1.0	0.9	67	5
		Iron	µg/L	5	81	77	21	5
		Lead	µg/L	0.5	<0.5	<0.5	200	0
		Manganese	µg/L	1	2	2	67	8
		Nickel	µg/L	1	<1	<1	200	0
		Selenium	µg/L	1	<1	<1	200	0
		Vanadium	µg/L	0.5	1.6	1.7	45	4



DUPLICATES

PE184085 R0

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.

Trace Metals (Dissolved) in Water by ICPMS TQe (continued)

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.014	LB231615.021	Zinc	µg/L	1	2	1	87	34

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231614.014	Total Aluminium	µg/L	5	300	330	17	8
		Total Iron	µg/L	5	3600	3600	15	2
PE184125.004	LB231614.026	Total Aluminium	µg/L	5	650	650	16	1
		Total Iron	µg/L	5	6600	6600	15	0



LABORATORY CONTROL SAMPLES

PE184085 R0

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.

Acidity and Free CO₂

Method: ME-(AU)-[ENV]AN140

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231609.002	Acidity to pH 8.3	mg CaCO ₃ /L	5	260	250	85 - 115	104

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231599.002	Total Alkalinity as CaCO ₃	mg/L	5	230	229	85 - 115	100

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231576.002	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	4.1	4	85 - 115	102

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231596.002	Chloride, Cl	mg/L	1	20	20	85 - 115	99
LB231596.026	Chloride, Cl	mg/L	1	20	20	85 - 115	99

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231605.002	Conductivity @ 25 C	µS/cm	2	310	303	90 - 110	101
LB231605.003	Conductivity @ 25 C	µS/cm	2	1000	1015	90 - 110	100

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231606.002	Dissolved Oxygen**	mg/L	0.5	9.8	8.5	88 - 118	115

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231563.002	Filterable Reactive Phosphorus as P	mg/L	0.002	0.052	0.05	80 - 120	104

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Parth)/AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231659.002	Mercury	mg/L	0.00005	0.0028	0.0025	80 - 120	114

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231576.002	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.8	4	85 - 115	94
LB231576.028	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.7	4	85 - 115	94

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231605.002	pH**	pH Units	-	7.4	7.4	98 - 102	100

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231604.001	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	448	428	90 - 110	105

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR
---------------	-----------	-------	-----



LABORATORY CONTROL SAMPLES

PE184085 R0

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.

Sulfate in water (continued)

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231596.002	Sulfate, SO4	mg/L	1	10	10	80 - 120	98
LB231596.027	Sulfate, SO4	mg/L	1	9	10	80 - 120	93

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231593.002	Total Kjeldahl Nitrogen	mg/L	0.05	1.0	1	80 - 120	101

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231627.002	Total Dissolved Solids Dried at 175-185°C	mg/L	10	300	291	85 - 115	102

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231592.002	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.48	0.5	80 - 120	95

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231615.002	Aluminium	µg/L	5	10	10	80 - 120	102
	Arsenic	µg/L	0.5	10	10	80 - 120	101
	Barium	µg/L	0.2	11	10	80 - 120	106
	Beryllium	µg/L	0.1	10	10	80 - 120	103
	Boron	µg/L	5	11	10	80 - 120	110
	Cadmium	µg/L	0.05	10	10	80 - 120	103
	Chromium	µg/L	0.5	11	10	80 - 120	106
	Cobalt	µg/L	0.5	11	10	80 - 120	105
	Copper	µg/L	0.5	10	10	80 - 120	105
	Iron	µg/L	5	12	10	80 - 120	119
	Lead	µg/L	0.5	10	10	80 - 120	104
	Manganese	µg/L	1	10	10	80 - 120	103
	Nickel	µg/L	1	11	10	80 - 120	113
	Selenium	µg/L	1	10	10	80 - 120	102
	Vanadium	µg/L	0.5	10	10	80 - 120	103
	Zinc	µg/L	1	12	10	80 - 120	118

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231614.002	Total Aluminium	µg/L	5	10	10	80 - 120	103

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.

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184086.001	LB231576.006	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	0.83	<0.05	0.8	101

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184008.001	LB231596.004	Chloride, Cl	mg/L	1	120	22.266	100	94

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.003	LB231563.004	Filterable Reactive Phosphorus as P	mg/L	0.002	0.054	0.002	0.05	105

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184085.001	LB231659.004	Mercury	mg/L	0.00005	0.0022	<0.00005	0.0025	112

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]AN258

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184086.001	LB231576.006	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.8	<0.05	4	94
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05	0.36	-	-

Sulfate in water

Method: ME-(AU)-[ENV]AN275

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE181631.001	LB231596.041	Sulfate, SO ₄	mg/L	1	250	150	100	100
PE184008.001	LB231596.004	Sulfate, SO ₄	mg/L	1	100	7.77188	100	97

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184086.007	LB231627.004	Total Dissolved Solids Dried at 175-185°C	mg/L	10	1600	520	1000	104

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184085.001	LB231615.004	Aluminium	µg/L	5	940	820	10	1232 Ⓢ
		Arsenic	µg/L	0.5	11	<0.5	10	103
		Barium	µg/L	0.2	180	170	10	75 Ⓢ
		Beryllium	µg/L	0.1	9.5	0.1	10	94
		Boron	µg/L	5	36	26	10	94
		Cadmium	µg/L	0.05	10	0.10	10	100
		Chromium	µg/L	0.5	14	3.0	10	109
		Cobalt	µg/L	0.5	14	5.0	10	95
		Copper	µg/L	0.5	13	3.4	10	94
		Iron	µg/L	5	2200	2300	10	-648 Ⓢ
		Lead	µg/L	0.5	12	2.2	10	98
		Manganese	µg/L	1	790	830	10	-384 Ⓢ
		Nickel	µg/L	1	14	3	10	109
		Selenium	µg/L	1	10	<1	10	103
		Vanadium	µg/L	0.5	17	6.0	10	111
		Zinc	µg/L	1	15	6	10	97

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR
-----------	---------------	-----------	-------	-----



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.

Trace Metals (Total) in Water by ICPMS TQe (continued)

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184085.001	LB231614.004	Total Aluminium	µg/L	5	1900	1900	10	179 ⓘ
		Total Iron	µg/L	5	2400	2600	-	-



MATRIX SPIKE DUPLICATES

PE184085 R0

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.

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-ENVJAN113

QC Sample	Sample Number	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.007	LB231627.005	Total Dissolved Solids Dried at 175-185°C	mg/L	10	1600	1500	16	5



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 Low surrogate recovery due to the sample emulsifying during extraction.
- † Refer to relevant report comments for further information.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

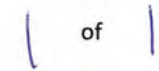
This test report shall not be reproduced, except in full.

Received: 04-Jul-2025



Page 1 of 4

[illegible]

Page 1 of 1

CLIENT DETAILS

Contact SGS Environmental Perth
 Client SGS I&E EHS PERTH AIRPORT
 Address 28 Reid Road
 Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
 Facsimile +61 (0)8 9373 3556
 Email au.environmental.subcon@sgs.com

Project **P25.045**
 Order Number **PE184085**
 Samples 2

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 **ME373574 R0**
 Date Received 08 Jul 2025
 Date Reported 11 Jul 2025

COMMENTS

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

8270D: Majority of surrogate recoveries within acceptance criteria.

SIGNATORIES



Adam ATKINSON
 Australian Chemistry Manager



Nicholas HORA
 Senior Laboratory Technician



Susan WAN
 Senior Chemist



ANALYTICAL REPORT

ME373574 R0

		Sample Number	ME373574.001	ME373574.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184085.001	PE184085.002
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025

Benzene	mg/L	0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373574 R0

		Sample Number	ME373574.001	ME373574.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184085.001	PE184085.002
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water **Method: USEPA 8260B** **Tested: 8/7/2025** **(continued)**

m&p-Xylenes	mg/L	0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	104
1,2-Dichloroethane_D4 (Surrogate)	%	-	105	101
Dibromofluoromethane (Surrogate)	%	-	102	98
p_Bromofluorobenzene (Surrogate)	%	-	95	93

USEPA 8260B Additional VOCs in water **Method: USEPA 8260B** **Tested: 8/7/2025**

Acetone*	mg/L	0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01



ANALYTICAL REPORT

ME373574 R0

		Sample Number	ME373574.001	ME373574.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184085.001	PE184085.002
Parameter	Units	LOR		

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 9/7/2025

Acenaphthene	µg/L	1	<1	<1
Acenaphthylene	µg/L	1	<1	<1
Anthracene	µg/L	1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2
Chrysene	µg/L	1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1
Fluoranthene	µg/L	1	<1	<1
Fluorene	µg/L	1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1
Naphthalene	µg/L	1	<1	<1
Phenanthrene	µg/L	1	<1	<1
Pyrene	µg/L	1	<1	<1
d14-p-terphenyl (Surrogate)	%	0.001	93	92
d5-nitrobenzene (Surrogate)	%	0.001	102	100
d6-phenol (Surrogate)	%	0.001	37	51
2-fluorobiphenyl (Surrogate)	%	0.001	69	61
2,4,6-tribromophenol (Surrogate)	%	0.001	87	100
2-fluorophenol (Surrogate)	%	0.001	92	132

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0077	0.0024
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0011	0.0014
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	0.0007
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	0.0006
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	0.0046	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	0.013	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	101



ANALYTICAL REPORT

ME373574 R0

		Sample Number	ME373574.001	ME373574.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184085.001	PE184085.002
Parameter	Units	LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025 (continued)

(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	119	107
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	96	95
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	103	101
(13C4-PFOA) Isotopically Labelled Internal Recovery	%	-	101	98
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	95	108
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	79	80
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	92	114
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	84	101
(13C2-PFTeDA) Isotopically Labelled Internal Recovery	%	-	79	86
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	64	44
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	82	104
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	96	105
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	99	99
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	55	68
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	54	78
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	56	70
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	103	95
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	106	72
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	91	73
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	107	93
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	107	102
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	56	65
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	68	61

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05



ANALYTICAL REPORT

ME373574 R0

		Sample Number	ME373574.001	ME373574.002
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184085.001	PE184085.002
Parameter	Units	LOR		

VPH in Water MA-30 Method: MA30-VPH Tested: 8/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB091732	µg/L	0.0005	<0.0005	2 - 14%	NA
Perfluoropentanoic acid (PFPeA)	LB091732	µg/L	0.0005	<0.0005	0 - 13%	NA
Perfluorohexanoic acid (PFHxA)	LB091732	µg/L	0.0005	<0.0005	3 - 5%	NA
Perfluoroheptanoic acid (PFHpA)	LB091732	µg/L	0.0005	<0.0005	7%	75%
Perfluorooctanoic Acid (PFOA)	LB091732	µg/L	0.0002	<0.0002	0 - 25%	93%
Perfluorononanoic acid (PFNA)	LB091732	µg/L	0.001	<0.001	0%	79%
Perfluorodecanoic acid (PFDA)	LB091732	µg/L	0.001	<0.001	0%	71%
Perfluoroundecanoic acid (PFUnA)	LB091732	µg/L	0.001	<0.001	0%	75%
Perfluorododecanoic acid (PFDoA)	LB091732	µg/L	0.001	<0.001	0%	82%
Perfluorotridecanoic acid (PFTriDA)	LB091732	µg/L	0.001	<0.001	0%	69%
Perfluorotetradecanoic acid (PFTeDA)	LB091732	µg/L	0.001	<0.001	0%	75%
Perfluorohexadecanoic acid (PFHxDA)	LB091732	µg/L	0.002	<0.002	0%	NA
Perfluorobutane sulfonate (PFBS)	LB091732	µg/L	0.001	<0.001	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB091732	µg/L	0.001	<0.001	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB091732	µg/L	0.0002	<0.0002	39 - 46%	NA
Perfluoroheptane sulfonate (PFHpS)	LB091732	µg/L	0.0002	<0.0002	0%	NA
Perfluorooctane sulfonate (PFOS)	LB091732	µg/L	0.0002	<0.0002	0 - 40%	68%
Sum of PFHxS and PFOS	LB091732	µg/L	0.0002	<0.0002	40 - 46%	NA
Perfluorononane sulfonate (PFNS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
Perfluorodecane sulfonate (PFDS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB091732	µg/L	0.002	<0.002	0%	67%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB091732	µg/L	0.0025	<0.0025	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB091732	µg/L	0.0025	<0.0025	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N_MeFOSAA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
Total PFAS (n=30)	LB091732	µg/L	0.006	<0.0060		
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	101%	4%	100%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	111%	0 - 2%	99%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	101%	3%	96%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	100%	1%	101%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	98%	10 - 16%	88%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	100%	4 - 5%	97%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	93%	7 - 14%	125%
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	91%	2 - 4%	102%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	81%	6 - 7%	101%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	61%	0 - 9%	103%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	48%	3 - 9%	89%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	94%	1 - 13%	100%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	97%	8 - 26%	100%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	122%	6 - 9%	114%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	107%	0 - 4%	109%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	75%	0 - 4%	77%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	83%	2 - 14%	82%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	99%	17 - 24%	106%
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	74%	26 - 70%	82%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	59%	28 - 41%	74%
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	88%	2 - 25%	97%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	90%	15 - 19%	98%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	93%	6 - 15%	98%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	100%	5 - 12%	102%

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.

SVOC Compounds in Waters by GC-QQQ Method: MA8270

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Acenaphthene	LB091736	µg/L	1	<1	83%
Acenaphthylene	LB091736	µg/L	1	<1	NA
Anthracene	LB091736	µg/L	1	<1	NA
Benzo(a)anthracene	LB091736	µg/L	1	<1	NA
Benzo (a) pyrene	LB091736	µg/L	1	<1	NA
Benzo (b) fluoranthene	LB091736	µg/L	1	<1	NA
Benzo (ghi) perylene	LB091736	µg/L	1	<1	NA
Benzo (k) fluoranthene	LB091736	µg/L	1	<1	NA
Benzo (b+j+k) fluoranthene	LB091736	µg/L	2	<2	NA
Chrysene	LB091736	µg/L	1	<1	NA
Dibenz (ah) anthracene	LB091736	µg/L	1	<1	NA
Fluoranthene	LB091736	µg/L	1	<1	NA
Fluorene	LB091736	µg/L	1	<1	NA
Indeno (1,2,3-cd) pyrene	LB091736	µg/L	1	<1	NA
Naphthalene	LB091736	µg/L	1	<1	NA
Phenanthrene	LB091736	µg/L	1	<1	NA
Pyrene	LB091736	µg/L	1	<1	84%
d14-p-terphenyl (Surrogate)	LB091736	%	0.001	117%	104%
d5-nitrobenzene (Surrogate)	LB091736	%	0.001	134%	115%
d6-phenol (Surrogate)	LB091736	%	0.001	54%	52%
2-fluorobiphenyl (Surrogate)	LB091736	%	0.001	79%	64%
2,4,6-tribromophenol (Surrogate)	LB091736	%	0.001	92%	97%
2-fluorophenol (Surrogate)	LB091736	%	0.001	102%	101%

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH C10-C14	LB091738	mg/L	0.01	<0.01	NA
TRH C15-C28	LB091738	mg/L	0.05	<0.05	NA
TRH C29-C36	LB091738	mg/L	0.05	<0.05	NA
Total TRH C10-C36	LB091738	mg/L	0.05	<0.05	100%
Total TRH C6-C36	LB091738	mg/L	0.05	<0.05	NA
TRH >C10-C40 Total (F)	LB091738	mg/L	0.05	<0.05	NA

TRH F Bands

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH >C10-C16	LB091738	mg/L	0.01	<0.01	NA
TRH >C10-C16 less Naphthalene (F2)	LB091738	mg/L	0.01	<0.01	NA
TRH >C16-C34 (F3)	LB091738	mg/L	0.05	<0.05	NA
TRH >C34-C40 (F4)	LB091738	mg/L	0.05	<0.05	NA
Total TRH C6-C40 (F)	LB091738	mg/L	0.05	<0.05	NA

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.

USEPA 8260B Additional VOCs in water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acetone*	LB091724	mg/L	0.02	<0.02	0%	NA
Acrylonitrile*	LB091724	mg/L	0.05	<0.05	0%	NA
Carbon disulphide*	LB091724	mg/L	0.005	<0.005	0%	NA
1-Chloro-2-propene*	LB091724	mg/L	0.001	<0.001	0%	NA
cis-1,4-Dichloro-2-butene*	LB091724	mg/L	0.005	<0.005	0%	NA
trans-1,4-Dichloro-2-butene*	LB091724	mg/L	0.005	<0.005	0%	NA
2-Hexanone*	LB091724	mg/L	0.001	<0.001	0%	NA
Iodomethane*	LB091724	mg/L	0.005	<0.005	0%	NA
MEK (2-butanone)	LB091724	mg/L	0.005	<0.005	0%	NA
Methyl Isobutyl Ketone*	LB091724	mg/L	0.005	<0.005	0%	NA
Methyl tert-butyl ether*	LB091724	mg/L	0.001	<0.001	0%	NA
Vinyl Acetate*	LB091724	mg/L	0.01	<0.01	0%	NA

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Benzene	LB091723	mg/L	0.001	<0.001	0%	93%
Bromobenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Bromochloromethane	LB091723	mg/L	0.001	<0.001	0%	NA
Bromodichloromethane	LB091723	mg/L	0.001	<0.001	0%	97%
Bromomethane	LB091723	mg/L	0.001	<0.001	0%	NA
n-Butylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
s-Butylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
t-Butylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Carbon tetrachloride	LB091723	mg/L	0.001	<0.001	0%	106%
Chlorobenzene	LB091723	mg/L	0.001	<0.001	0%	105%
Chloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
Chloromethane	LB091723	mg/L	0.001	<0.001	0%	NA
2-Chlorotoluene	LB091723	mg/L	0.001	<0.001	0%	NA
4-Chlorotoluene	LB091723	mg/L	0.001	<0.001	0%	NA
Dibromochloromethane	LB091723	mg/L	0.001	<0.001	0%	108%
1,2-Dibromo-3-chloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2-Dibromoethane	LB091723	mg/L	0.001	<0.001	0%	NA
Dibromomethane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2-Dichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	100%
1,3-Dichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	NA
1,4-Dichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	102%
Dichlorodifluoromethane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2-Dichloroethane	LB091723	mg/L	0.001	<0.001	0%	99%
1,1-Dichloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
1,1-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	88%
cis-1,2-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	92%
trans-1,2-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	88%
1,2-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	NA
Dichloromethane (methylene chloride)	LB091723	mg/L	0.01	<0.01	0%	91%
1,2-Dichloropropane	LB091723	mg/L	0.001	<0.001	0%	95%
1,3-Dichloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
2,2-Dichloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
1,1-Dichloropropene	LB091723	mg/L	0.001	<0.001	0%	NA
cis-1,3-Dichloropropene	LB091723	mg/L	0.001	<0.001	0%	NA
trans-1,3-Dichloropropene	LB091723	mg/L	0.001	<0.001	0%	NA
Ethylbenzene	LB091723	mg/L	0.001	<0.001	0%	101%
Hexachloro-1,3-butadiene	LB091723	mg/L	0.001	<0.001	0%	NA
Isopropylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
p-Isopropyltoluene	LB091723	mg/L	0.001	<0.001	0%	NA
Naphthalene (VOC)	LB091723	mg/L	0.001	<0.001	0%	NA

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.

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B (continued)

				MB	DUP %RPD	LCS %Recovery
Propylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Styrene	LB091723	mg/L	0.001	<0.001	0%	94%
1,1,2,2-Tetrachloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
Tetrachloroethene	LB091723	mg/L	0.001	<0.001	0%	106%
1,1,1,2-Tetrachloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
Toluene	LB091723	mg/L	0.001	<0.001	0%	106%
Tribromomethane	LB091723	mg/L	0.001	<0.001	0%	114%
1,2,3-Trichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	NA
1,2,4-Trichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	89%
1,1,1-Trichloroethane	LB091723	mg/L	0.001	<0.001	0%	103%
1,3,5-Trichlorobenzene	LB091723	mg/L	0.001	<0.001		
1,1,2-Trichloroethane	LB091723	mg/L	0.001	<0.001	0%	104%
Trichloroethene	LB091723	mg/L	0.001	<0.001	0%	91%
Trichlorofluoromethane	LB091723	mg/L	0.001	<0.001	0%	NA
Trichloromethane	LB091723	mg/L	0.001	<0.001	0%	93%
1,2,3-Trichloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2,4-Trimethylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
1,3,5-Trimethylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Vinyl Chloride	LB091723	mg/L	0.001	<0.001	0%	87%
m&p-Xylenes	LB091723	mg/L	0.001	<0.001	0%	104%
o-Xylene	LB091723	mg/L	0.001	<0.001	0%	107%
Xylenes	LB091723	mg/L	0.001	<0.001	0%	NA
Total Trichlorobenzenes	LB091723	mg/L	0.001	<0.001	0%	NA
Total trihalomethanes (THMs)	LB091723	mg/L	0.002	<0.002	0%	NA
Total BTEX	LB091723	mg/L	0.001	<0.001	0%	NA
Toluene-d8 (surrogate)	LB091723	%	-	104%	1%	101%
1,2-Dichloroethane_D4 (Surrogate)	LB091723	%	-	105%	1 - 4%	101%
Dibromofluoromethane (Surrogate)	LB091723	%	-	104%	1 - 5%	98%
p_Bromofluorobenzene (Surrogate)	LB091723	%	-	95%	2%	107%



QC SUMMARY

ME373574 R0

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.

VPH in Water MA-30 Method: MA30-VPH

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
C6-C9 (P&T)	LB091723	mg/L	0.01	<0.01	0%	80%
C6-C10 (P&T)	LB091723	mg/L	0.01	<0.01	0%	77%
C6-C10 (P&T) less BTEX (F1)	LB091723	mg/L	0.01	<0.01	0%	NA

METHOD

METHODOLOGY SUMMARY

EPA 8260B-01

This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40. The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions". Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS).

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC-QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting.

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

ME373574 R0

CLIENT DETAILS

Contact SGS Environmental Perth
Client SGS I&E EHS PERTH AIRPORT
Address 28 Reid Road
Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
Facsimile +61 (0)8 9373 3556
Email au.environmental.subcon@sgs.com

Project **P25.045**
Order Number **PE184085**
Samples 2

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 **ME373574 R0**
Date Received 08 Jul 2025
Date Reported 11 Jul 2025

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:

Surrogate	SVOC Compounds in Waters by GC-QQQ	2 items
-----------	------------------------------------	---------

SAMPLE SUMMARY

Date documentation received	8/7/2025	Sample counts by matrix	2 Water
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	12.6°C	Sample container provider	SGS
Turnaround time requested	Two Days	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	3 double bagged Ice
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4	Type of documentation received	COC



HOLDING TIME SUMMARY

ME373574 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 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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184085.001	ME373574.001	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184085.002	ME373574.002	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184085.001	ME373574.001	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184085.002	ME373574.002	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184085.001	ME373574.001	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184085.002	ME373574.002	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025

USEPA 8260B Additional VOCs in water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184085.001	ME373574.001	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184085.002	ME373574.002	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184085.001	ME373574.001	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184085.002	ME373574.002	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025

VPH in Water MA-30

Method: MA30-VPH

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184085.001	ME373574.001	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184085.002	ME373574.002	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025



SURROGATES

ME373574 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-PFTeDA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	79
	PE184085.002	ME373574.002	%	10 - 150%	86
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	55
	PE184085.002	ME373574.002	%	10 - 150%	68
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	54
	PE184085.002	ME373574.002	%	10 - 150%	78
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	56
	PE184085.002	ME373574.002	%	10 - 150%	70
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	84
	PE184085.002	ME373574.002	%	10 - 150%	101
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	64
	PE184085.002	ME373574.002	%	10 - 150%	44
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	82
	PE184085.002	ME373574.002	%	10 - 150%	104
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	96
	PE184085.002	ME373574.002	%	10 - 150%	105
(13C4-PFOA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	101
	PE184085.002	ME373574.002	%	10 - 150%	98
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	100
	PE184085.002	ME373574.002	%	10 - 150%	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	103
	PE184085.002	ME373574.002	%	10 - 150%	101
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	96
	PE184085.002	ME373574.002	%	10 - 150%	95
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	119
	PE184085.002	ME373574.002	%	10 - 150%	107
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	79
	PE184085.002	ME373574.002	%	10 - 150%	80
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	92
	PE184085.002	ME373574.002	%	10 - 150%	114
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	99
	PE184085.002	ME373574.002	%	10 - 150%	99
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	103
	PE184085.002	ME373574.002	%	10 - 150%	95
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	95
	PE184085.002	ME373574.002	%	10 - 150%	108
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	106
	PE184085.002	ME373574.002	%	10 - 150%	72
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	56
	PE184085.002	ME373574.002	%	10 - 150%	65
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	91
	PE184085.002	ME373574.002	%	10 - 150%	73
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	68
	PE184085.002	ME373574.002	%	10 - 150%	61
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	107
	PE184085.002	ME373574.002	%	10 - 150%	93
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	PE184085.001	ME373574.001	%	10 - 150%	107
	PE184085.002	ME373574.002	%	10 - 150%	102

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	PE184085.001	ME373574.001	%	40 - 130%	87
	PE184085.002	ME373574.002	%	40 - 130%	100
2-fluorobiphenyl (Surrogate)	PE184085.001	ME373574.001	%	40 - 130%	69
	PE184085.002	ME373574.002	%	40 - 130%	61
2-fluorophenol (Surrogate)	PE184085.001	ME373574.001	%	40 - 130%	92
	PE184085.002	ME373574.002	%	40 - 130%	132 ↑
d14-p-terphenyl (Surrogate)	PE184085.001	ME373574.001	%	40 - 130%	93
	PE184085.002	ME373574.002	%	40 - 130%	92
d5-nitrobenzene (Surrogate)	PE184085.001	ME373574.001	%	40 - 130%	102
	PE184085.002	ME373574.002	%	40 - 130%	100



SURROGATES

ME373574 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d6-phenol (Surrogate)	PE184085.001	ME373574.001	%	40 - 130%	37 ↑
	PE184085.002	ME373574.002	%	40 - 130%	51

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	PE184085.001	ME373574.001	%	60 - 130%	105
	PE184085.002	ME373574.002	%	60 - 130%	101
Dibromofluoromethane (Surrogate)	PE184085.001	ME373574.001	%	60 - 130%	102
	PE184085.002	ME373574.002	%	60 - 130%	98
p_Bromofluorobenzene (Surrogate)	PE184085.001	ME373574.001	%	60 - 130%	95
	PE184085.002	ME373574.002	%	60 - 130%	93
Toluene-d8 (surrogate)	PE184085.001	ME373574.001	%	60 - 130%	103
	PE184085.002	ME373574.002	%	60 - 130%	104

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 Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result
LB091732.001	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	<0.0005
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002
	Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001
	Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001
	Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002
	Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001
	Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001
	Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002
	Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002
	Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002
	Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005
	Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005
	Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002
	N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025
	2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	µg/L	0.0025	<0.0025
	2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	µg/L	0.0025	<0.0025
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	µg/L	0.0025	<0.0025
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	%	-	111
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	%	-	98
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	%	-	93
	(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	%	-	91
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	%	-	81
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	%	-	61
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	%	-	48
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	%	-	94
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	%	-	97
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	%	-	122
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	107
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	75
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	83
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	%	-	99
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	%	-	74
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	%	-	59
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	%	-	88
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	%	-	90
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	93
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	100

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091736.001	Acenaphthene	µg/L	1	<1
	Acenaphthylene	µg/L	1	<1
	Anthracene	µg/L	1	<1



METHOD BLANKS

ME373574 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091736.001	Benzo(a)anthracene	µg/L	1	<1
	Benzo (a) pyrene	µg/L	1	<1
	Benzo (b) fluoranthene	µg/L	1	<1
	Benzo (ghi) perylene	µg/L	1	<1
	Benzo (k) fluoranthene	µg/L	1	<1
	Benzo (b+j+k) fluoranthene	µg/L	2	<2
	Chrysene	µg/L	1	<1
	Dibenz (ah) anthracene	µg/L	1	<1
	Fluoranthene	µg/L	1	<1
	Fluorene	µg/L	1	<1
	Indeno (1,2,3-cd) pyrene	µg/L	1	<1
	Naphthalene	µg/L	1	<1
	Phenanthrene	µg/L	1	<1
	Pyrene	µg/L	1	<1

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result
LB091738.001	TRH C10-C14	mg/L	0.01	<0.01
	TRH C15-C28	mg/L	0.05	<0.05
	TRH C29-C36	mg/L	0.05	<0.05
	Total TRH C10-C36	mg/L	0.05	<0.05
	Total TRH C6-C36	mg/L	0.05	<0.05
	TRH >C10-C40 Total (F)	mg/L	0.05	<0.05
	TRH F Bands	mg/L	0.01	<0.01
	TRH >C10-C16	mg/L	0.01	<0.01
	TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01
	TRH >C16-C34 (F3)	mg/L	0.05	<0.05
	TRH >C34-C40 (F4)	mg/L	0.05	<0.05
	Total TRH C6-C40 (F)	mg/L	0.05	<0.05

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091723.001	Benzene	mg/L	0.001	<0.001
	Bromobenzene	mg/L	0.001	<0.001
	Bromochloromethane	mg/L	0.001	<0.001
	Bromodichloromethane	mg/L	0.001	<0.001
	Bromomethane	mg/L	0.001	<0.001
	n-Butylbenzene	mg/L	0.001	<0.001
	s-Butylbenzene	mg/L	0.001	<0.001
	t-Butylbenzene	mg/L	0.001	<0.001
	Carbon tetrachloride	mg/L	0.001	<0.001
	Chlorobenzene	mg/L	0.001	<0.001
	Chloroethane	mg/L	0.001	<0.001
	Chloromethane	mg/L	0.001	<0.001
	2-Chlorotoluene	mg/L	0.001	<0.001
	4-Chlorotoluene	mg/L	0.001	<0.001
	Dibromochloromethane	mg/L	0.001	<0.001
	1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001
	1,2-Dibromoethane	mg/L	0.001	<0.001
	Dibromomethane	mg/L	0.001	<0.001
	1,2-Dichlorobenzene	mg/L	0.001	<0.001
	1,3-Dichlorobenzene	mg/L	0.001	<0.001
	1,4-Dichlorobenzene	mg/L	0.001	<0.001
	Dichlorodifluoromethane	mg/L	0.001	<0.001
	1,2-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethene	mg/L	0.001	<0.001
	cis-1,2-Dichloroethene	mg/L	0.001	<0.001
	trans-1,2-Dichloroethene	mg/L	0.001	<0.001
	Dichloromethane (methylene chloride)	mg/L	0.01	<0.01
	1,2-Dichloropropane	mg/L	0.001	<0.001
	1,3-Dichloropropane	mg/L	0.001	<0.001
	2,2-Dichloropropane	mg/L	0.001	<0.001



METHOD BLANKS

ME373574 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091723.001	1,1-Dichloropropene	mg/L	0.001	<0.001
	cis-1,3-Dichloropropene	mg/L	0.001	<0.001
	trans-1,3-Dichloropropene	mg/L	0.001	<0.001
	Ethylbenzene	mg/L	0.001	<0.001
	Hexachloro-1,3-butadiene	mg/L	0.001	<0.001
	Isopropylbenzene	mg/L	0.001	<0.001
	p-Isopropyltoluene	mg/L	0.001	<0.001
	Naphthalene (VOC)	mg/L	0.001	<0.001
	Propylbenzene	mg/L	0.001	<0.001
	Styrene	mg/L	0.001	<0.001
	1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001
	Tetrachloroethene	mg/L	0.001	<0.001
	1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001
	Toluene	mg/L	0.001	<0.001
	Tribromomethane	mg/L	0.001	<0.001
	1,2,3-Trichlorobenzene	mg/L	0.001	<0.001
	1,2,4-Trichlorobenzene	mg/L	0.001	<0.001
	1,1,1-Trichloroethane	mg/L	0.001	<0.001
	1,1,2-Trichloroethane	mg/L	0.001	<0.001
	Trichloroethene	mg/L	0.001	<0.001
	Trichlorofluoromethane	mg/L	0.001	<0.001
	Trichloromethane	mg/L	0.001	<0.001
	1,2,3-Trichloropropane	mg/L	0.001	<0.001
	1,2,4-Trimethylbenzene	mg/L	0.001	<0.001
	1,3,5-Trimethylbenzene	mg/L	0.001	<0.001
	Vinyl Chloride	mg/L	0.001	<0.001
	m&p-Xylenes	mg/L	0.001	<0.001
	o-Xylene	mg/L	0.001	<0.001
	Xylenes	mg/L	0.001	<0.001
	Toluene-d8 (surrogate)	%	-	104
	1,2-Dichloroethane_D4 (Surrogate)	%	-	105
	Dibromofluoromethane (Surrogate)	%	-	104
	p_Bromofluorobenzene (Surrogate)	%	-	95

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result
LB091723.001	C6-C9 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01



DUPLICATES

ME373574 R0

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373575.001	LB091732.004	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.00262870250	0.0026684630	200	2
		Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	0	0	200	0
		Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.00319613520	0.0032929824	200	3
		Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.00134487520	0.0014465011	200	7
		Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.001559	0.001214	200	25
		Perfluorononanoic acid (PFNA)	µg/L	0.001	0	0	200	0
		Perfluorodecanoic acid (PFDA)	µg/L	0.001	0	0	200	0
		Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	0	0	200	0
		Perfluorododecanoic acid (PFDoA)	µg/L	0.001	0	0	200	0
		Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	0	0	200	0
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	0	0	200	0
		Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	0	0	200	0
		Perfluorobutane sulfonate (PFBS)	µg/L	0.001	0.00099585950	0.0009925288	200	0
		Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	9.69504017870	0.0001987631	200	0
		Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.00262014500	0.0038825890	200	39
		Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	0	0	200	0
		Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.00338351730	0.0050787431	200	40
		Sum of PFHxS and PFOS	µg/L	0.0002	0.00600366240	0.0089613322	200	40
		Perfluorononane sulfonate (PFNS)	µg/L	0.0005	0	7.3622059477	200	0
		Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	0	0	200	0
		Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	0	0	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	1.93813121182	5.080760053	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	3.4880496450	0	200	0
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	1.20144212537	4.935783470	200	0
		Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	1.4834640157	0	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	0	0	200	0
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	0	0	200	0
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	0	0	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	0	0	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	1.8708993597	0	200	0
		N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	3.2891029530	1.7250637389	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	µg/L	-	10.23450557529	8.702248818	200	4
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	µg/L	-	10.222005808	9.9927565555	200	2
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	µg/L	-	9.51176606229	7.579421742	200	3
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	µg/L	-	9.55316310929	5.054163504	200	1
		(13C4_PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.8431166654	8.9492795960	200	10
		(13C9-PFNA) Isotopically Labelled Internal Recovery	µg/L	-	9.1213194271	8.7169771709	200	5
		(13C6-PFDA) Isotopically Labelled Internal Recovery	µg/L	-	8.8316770950	8.2069793602	200	7
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	µg/L	-	10.207387141	9.9797289664	200	2
		(13C2-PFDoA) Isotopically Labelled Internal Recovery	µg/L	-	9.9270726407	10.5179161296	200	6
		(13C2_PFTeDA) Isotopically Labelled Internal Recovery	µg/L	-	9.5177720699	10.4384178493	200	9
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	µg/L	-	10.4340832568	0.7399236865	200	3
		(13C3-PFBS) Isotopically Labelled Internal Recovery	µg/L	-	9.8535965834	1.1831325645	200	13
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	µg/L	-	10.7082797904	3.9006627097	200	26
		(13C8-PFOS) Isotopically Labelled Internal Recovery	µg/L	-	10.7912679473	1.8415842051	200	9
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	9.623951782	10.05110063	200	4
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	6.802560916	17.0773280955	200	4
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	7.319112020	16.3545689971	200	14
		(13C8-PFOSA) Isotopically Labelled Internal Recovery	µg/L	-	8.4865692964	10.7939558202	200	24
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	µg/L	-	5.4996706449	1.3782650802	200	70
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	µg/L	-	5.5761957558	8.4701955171	200	41
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	µg/L	-	8.5180043439	10.9782847327	200	25
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	µg/L	-	9.0902397137	10.9615704166	200	19
		(D3-N-MeFOSAA) Isotopically Labelled Internal	µg/L	-	7.7440851575	7.2793953387	200	6
		(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	µg/L	-	8.119975263	7.171717172	200	12
ME373576.007	LB091732.015	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.009918	0.00865	200	14
		Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	0.006038	0.0068733039	200	13
		Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0043567877	0.0045747140	200	5
		Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0005999685	0.0006429271	200	7
		Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0	0	200	0
		Perfluorononanoic acid (PFNA)	µg/L	0.001	0	0	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 give a different calculated RPD.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level (continued)

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373576.007	LB091732.015	Perfluorodecanoic acid (PFDA)	µg/L	0.001	0	0	200	0
		Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	0	0	200	0
		Perfluorododecanoic acid (PFDoA)	µg/L	0.001	0	0	200	0
		Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	0	0	200	0
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	0	0	200	0
		Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	0	0	200	0
		Perfluorobutane sulfonate (PFBS)	µg/L	0.001	0.00012946530.0001097433	200	0	
		Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	0.00033559680.0002920500	200	0	
		Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.00100320690.0015991120	200	46	
		Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	5.3367936105	0	200	0
		Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0	0	200	0
		Sum of PFHxS and PFOS	µg/L	0.0002	0.00100320690.0015991120	200	46	
		Perfluorononane sulfonate (PFNS)	µg/L	0.0005	0.00013038492.6690730278	200	0	
		Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	0	0	200	0
		Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	0	0	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	0	0	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	0.00019774840.0001099346	200	0	
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	0	1.1370470703	200	0
		Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	0	0	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	3.23368896157.9196636417	200	0	
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	0.00010826850.0002326821	200	0	
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	0	0	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	0	0	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	1.56960933585.3858238288	200	0	
		N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	4.78798322701.2217120010	200	0	
		(13C4-PFBA) Isotopically Labelled Internal Recovery	µg/L	-	10.09496228519.6664471512	200	4	
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	µg/L	-	14.57912520024.5318924175	200	0	
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	µg/L	-	9.13735980748.8860038445	200	3	
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	µg/L	-	9.72684041819.8229630943	200	1	
		(13C4-PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.78619141218.3771882410	200	16	
		(13C9-PFNA) Isotopically Labelled Internal Recovery	µg/L	-	10.20418709079.8527652044	200	4	
		(13C6-PFDA) Isotopically Labelled Internal Recovery	µg/L	-	9.323542834110.6774685675	200	14	
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	µg/L	-	9.727676164510.1509961727	200	4	
		(13C2-PFDoA) Isotopically Labelled Internal Recovery	µg/L	-	10.53944310469.8162447748	200	7	
		(13C2-PFTeDA) Isotopically Labelled Internal Recovery	µg/L	-	10.83098271740.791912127C	200	0	
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	µg/L	-	9.921272262210.8502359797	200	9	
		(13C3-PFBS) Isotopically Labelled Internal Recovery	µg/L	-	8.58427085148.7035699157	200	1	
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	µg/L	-	10.27689653419.5137633099	200	8	
		(13C8-PFOS) Isotopically Labelled Internal Recovery	µg/L	-	10.86280537210.2354598015	200	6	
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	8.02672956	8.059486373	200	0
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	7.08602611187.0965575912	200	0	
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	6.99011366927.1436470493	200	2	
		(13C8-PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.47731491891.2635515675	200	17	
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	µg/L	-	10.92820195108.4462623249	200	26	
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	µg/L	-	5.27566933006.9630146565	200	28	
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	µg/L	-	8.74614784208.5582222029	200	2	
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	µg/L	-	9.028425492310.5281351244	200	15	
		(D3-N-MeFOSAA) Isotopically Labelled Internal	µg/L	-	6.08349589927.0891018862	200	15	
		(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	µg/L	-	7.649969079	7.310863739	200	5

USEPA 8260B Additional VOCs in water

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091724.006	Acetone*	mg/L	0.02	<0.02	<0.02	200	0
		Acrylonitrile*	mg/L	0.05	<0.05	<0.05	200	0
		Carbon disulphide*	mg/L	0.005	<0.005	<0.005	200	0
		1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		2-Hexanone*	mg/L	0.001	<0.001	<0.001	200	0
		Iodomethane*	mg/L	0.005	<0.005	<0.005	200	0
		MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	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 give a different calculated RPD.

USEPA 8260B Additional VOCs in water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091724.006	Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	200	0
		Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	200	0
ME373576.008	LB091724.016	Acetone*	mg/L	0.02	0	0	200	0
		Acrylonitrile*	mg/L	0.05	0	0	200	0
		Carbon disulphide*	mg/L	0.005	0	0	200	0
		1-Chloro-2-propene*	mg/L	0.001	0	0	200	0
		cis-1,4-Dichloro-2-butene*	mg/L	0.005	0	0	200	0
		trans-1,4-Dichloro-2-butene*	mg/L	0.005	0	0	200	0
		2-Hexanone*	mg/L	0.001	0	0	200	0
		Iodomethane*	mg/L	0.005	0	0	200	0
		MEK (2-butanone)	mg/L	0.005	0	0	200	0
		Methyl Isobutyl Ketone*	mg/L	0.005	0	0	200	0
		Methyl tert-butyl ether*	mg/L	0.001	0	0	200	0
		Vinyl Acetate*	mg/L	0.01	0	0	200	0

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091723.006	Benzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromodichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromomethane	mg/L	0.001	<0.001	<0.001	200	0
		n-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		s-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		t-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	200	0
		Chlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Chloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Chloromethane	mg/L	0.001	<0.001	<0.001	200	0
		2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		Dibromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	200	0
		Dibromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	200	0
		1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		Ethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	200	0
		Isopropylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	200	0
		Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	200	0
		Propylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Styrene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0

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

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: $MAD = 100 \times \frac{SDL}{Mean} + LR$

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.

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091723.006	Tetrachloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Toluene	mg/L	0.001	<0.001	<0.001	200	0
		Tribromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Chloride	mg/L	0.001	<0.001	<0.001	200	0
		m&p-Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		o-Xylene	mg/L	0.001	<0.001	<0.001	200	0
		Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	200	0
		Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	200	0
		Total BTEX	mg/L	0.001	<0.001	<0.001	200	0
		Toluene-d8 (surrogate)	µg/L	-	51.9	51.2	30	1
		1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	50.5	52.4	30	4
		Dibromofluoromethane (Surrogate)	µg/L	-	48.9	51.6	30	5
		p_Bromofluorobenzene (Surrogate)	µg/L	-	46.3	47.2	30	2
ME373576.005	LB091723.016	Benzene	mg/L	0.001	0	0	200	0
		Bromobenzene	mg/L	0.001	0	0	200	0
		Bromochloromethane	mg/L	0.001	0	0	200	0
		Bromodichloromethane	mg/L	0.001	0	0	200	0
		Bromomethane	mg/L	0.001	0	0	200	0
		n-Butylbenzene	mg/L	0.001	0	0	200	0
		s-Butylbenzene	mg/L	0.001	0	0	200	0
		t-Butylbenzene	mg/L	0.001	0	0	200	0
		Carbon tetrachloride	mg/L	0.001	0	0	200	0
		Chlorobenzene	mg/L	0.001	0	0	200	0
		Chloroethane	mg/L	0.001	0	0	200	0
		Chloromethane	mg/L	0.001	0	0	200	0
		2-Chlorotoluene	mg/L	0.001	0	0	200	0
		4-Chlorotoluene	mg/L	0.001	0	0	200	0
		Dibromochloromethane	mg/L	0.001	0	0	200	0
		1,2-Dibromo-3-chloropropane	mg/L	0.001	0	0	200	0
		1,2-Dibromoethane	mg/L	0.001	0	0	200	0
		Dibromomethane	mg/L	0.001	0	0	200	0
		1,2-Dichlorobenzene	mg/L	0.001	0	0	200	0
		1,3-Dichlorobenzene	mg/L	0.001	0	0	200	0
		1,4-Dichlorobenzene	mg/L	0.001	0	0	200	0
		Dichlorodifluoromethane	mg/L	0.001	0	0	200	0
		1,2-Dichloroethane	mg/L	0.001	0	0	200	0
		1,1-Dichloroethane	mg/L	0.001	0	0	200	0
		1,1-Dichloroethene	mg/L	0.001	0	0	200	0
		cis-1,2-Dichloroethene	mg/L	0.001	0	0	200	0
		trans-1,2-Dichloroethene	mg/L	0.001	0	0	200	0
		1,2-Dichloroethene	mg/L	0.001	0	0	200	0
		Dichloromethane (methylene chloride)	mg/L	0.01	0	0	200	0
		1,2-Dichloropropane	mg/L	0.001	0	0	200	0
		1,3-Dichloropropane	mg/L	0.001	0	0	200	0
		2,2-Dichloropropane	mg/L	0.001	0	0	200	0
		1,1-Dichloropropene	mg/L	0.001	0	0	200	0
		cis-1,3-Dichloropropene	mg/L	0.001	0	0	200	0
		trans-1,3-Dichloropropene	mg/L	0.001	0	0	200	0
		Ethylbenzene	mg/L	0.001	0	0	200	0



DUPLICATES

ME373574 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373576.005	LB091723.016	Hexachloro-1,3-butadiene	mg/L	0.001	0	0	200	0
		Isopropylbenzene	mg/L	0.001	0	0	200	0
		p-Isopropyltoluene	mg/L	0.001	0	0	200	0
		Naphthalene (VOC)	mg/L	0.001	0	0	200	0
		Propylbenzene	mg/L	0.001	0	0	200	0
		Styrene	mg/L	0.001	0	0	200	0
		1,1,2,2-Tetrachloroethane	mg/L	0.001	0	0	200	0
		Tetrachloroethene	mg/L	0.001	0	0	200	0
		1,1,1,2-Tetrachloroethane	mg/L	0.001	0	0	200	0
		Toluene	mg/L	0.001	0	0	200	0
		Tribromomethane	mg/L	0.001	0	0	200	0
		1,2,3-Trichlorobenzene	mg/L	0.001	0	0	200	0
		1,2,4-Trichlorobenzene	mg/L	0.001	0	0	200	0
		1,1,1-Trichloroethane	mg/L	0.001	0	0	200	0
		1,1,2-Trichloroethane	mg/L	0.001	0	0	200	0
		Trichloroethene	mg/L	0.001	0	0	200	0
		Trichlorofluoromethane	mg/L	0.001	0	0	200	0
		Trichloromethane	mg/L	0.001	0	0	200	0
		1,2,3-Trichloropropane	mg/L	0.001	0	0	200	0
		1,2,4-Trimethylbenzene	mg/L	0.001	0	0	200	0
		1,3,5-Trimethylbenzene	mg/L	0.001	0	0	200	0
		Vinyl Chloride	mg/L	0.001	0	0	200	0
		m&p-Xylenes	mg/L	0.001	0	0	200	0
		o-Xylene	mg/L	0.001	0	0	200	0
		Xylenes	mg/L	0.001	0	0	200	0
		Total Trichlorobenzenes	mg/L	0.001	0	0	200	0
		Total trihalomethanes (THMs)	mg/L	0.002	0	0	200	0
		Total BTEX	mg/L	0.001	0	0	200	0
		Toluene-d8 (surrogate)	µg/L	-	51.35205041151	7499539556	30	1
		1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	53.24161122753	9418731516	30	1
		Dibromofluoromethane (Surrogate)	µg/L	-	52.02909809752	5990911327	30	1
		p-Bromofluorobenzene (Surrogate)	µg/L	-	46.17322681017	1395227291	30	2

VPH in Water MA-30

Method: MA30-VPH

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091723.006	C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	200	0
ME373576.005	LB091723.016	C6-C9 (P&T)	mg/L	0.01	0	0	200	0
		C6-C10 (P&T)	mg/L	0.01	0	0	200	0
		C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	0	0	200	0



LABORATORY CONTROL SAMPLES

ME373574 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091732.002	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.015	0.02	40 - 150	75
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.019	0.02	40 - 150	93
	Perfluorononanoic acid (PFNA)	µg/L	0.001	0.016	0.02	40 - 150	79
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	0.014	0.02	40 - 150	71
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	0.015	0.02	40 - 150	75
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	0.016	0.02	40 - 150	82
	Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	0.014	0.02	40 - 150	69
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	0.015	0.02	40 - 150	75
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.014	0.02	40 - 150	68
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	0.013	0.02	40 - 150	67
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.0	10	10 - 150	100
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.91	10	10 - 150	99
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.62	10	10 - 150	96
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	10	10 - 150	101
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.78	10	10 - 150	88
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.69	10	10 - 150	97
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	12.5	10	10 - 150	125
	(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	10	10 - 150	102
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	10	10 - 150	101
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.3	10	10 - 150	103
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.93	10	10 - 150	89
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.28	9.3	10 - 150	100
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.50	9.46	9 - 150	100
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.6	9.28	10 - 150	114
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	9.34	10 - 150	109
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.32	9.5	10 - 150	77
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.86	9.58	10 - 150	82
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.6	10	10 - 150	106
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.23	10	10 - 150	82
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.41	10	10 - 150	74
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.71	10	10 - 150	97
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.75	10	10 - 150	98
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.75	10	10 - 150	98
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	10	10 - 150	102

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091738.002	Total TRH C10-C36	mg/L	0.05	25	25	80 - 120	100

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091723.002	Benzene	mg/L	0.001	0.023	0.025	60 - 140	93
	Bromodichloromethane	mg/L	0.001	0.024	0.025	60 - 140	97
	Carbon tetrachloride	mg/L	0.001	0.027	0.025	60 - 140	106
	Chlorobenzene	mg/L	0.001	0.026	0.025	60 - 140	105
	Dibromochloromethane	mg/L	0.001	0.027	0.025	60 - 140	108
	1,2-Dichlorobenzene	mg/L	0.001	0.025	0.025	60 - 140	100
	1,4-Dichlorobenzene	mg/L	0.001	0.025	0.025	60 - 140	102
	1,2-Dichloroethane	mg/L	0.001	0.025	0.025	60 - 140	99
	1,1-Dichloroethene	mg/L	0.001	0.022	0.025	60 - 140	88
	cis-1,2-Dichloroethene	mg/L	0.001	0.023	0.025	60 - 140	92
	trans-1,2-Dichloroethene	mg/L	0.001	0.022	0.025	60 - 140	88
	Dichloromethane (methylene chloride)	mg/L	0.01	0.02	0.025	60 - 140	91
	1,2-Dichloropropane	mg/L	0.001	0.024	0.025	60 - 140	95
	Ethylbenzene	mg/L	0.001	0.025	0.025	60 - 140	101
	Styrene	mg/L	0.001	0.024	0.025	60 - 140	94
	Tetrachloroethene	mg/L	0.001	0.026	0.025	60 - 140	106
	Toluene	mg/L	0.001	0.027	0.025	60 - 140	106
	Tribromomethane	mg/L	0.001	0.028	0.025	60 - 140	114
	1,2,4-Trichlorobenzene	mg/L	0.001	0.022	0.025	60 - 140	89



LABORATORY CONTROL SAMPLES

ME373574 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091723.002	1,1,1-Trichloroethane	mg/L	0.001	0.026	0.025	60 - 140	103
	1,1,2-Trichloroethane	mg/L	0.001	0.026	0.025	60 - 140	104
	Trichloroethene	mg/L	0.001	0.023	0.025	60 - 140	91
	Trichloromethane	mg/L	0.001	0.023	0.025	60 - 140	93
	Vinyl Chloride	mg/L	0.001	0.022	0.025	60 - 140	87
	m&p-Xylenes	mg/L	0.001	0.052	0.05	60 - 140	104
	o-Xylene	mg/L	0.001	0.027	0.025	60 - 140	107
	Toluene-d8 (surrogate)	µg/L	-	50.3	50	70 - 130	101
	1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	50.4	50	70 - 130	101
	Dibromofluoromethane (Surrogate)	µg/L	-	48.9	50	70 - 130	98
	p_Bromofluorobenzene (Surrogate)	µg/L	-	53.3	50	70 - 130	107

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091723.002	C6-C9 (P&T)	mg/L	0.01	0.36	0.45	60 - 130	80
	C6-C10 (P&T)	mg/L	0.01	0.38	0.5	60 - 130	77



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

ME373574 R0

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 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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.



SAMPLE RECEIPT ADVICE

PE184085

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 2

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

Samples Received Fri 4/7/2025
Report Due Fri 11/7/2025
SGS Reference **PE184085**

SUBMISSION DETAILS

This is to confirm that 2 samples were received on Friday 4/7/2025. Results are expected to be ready by COB Friday 11/7/2025. Please quote SGS reference PE184085 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Date documentation received	4/7/2025	Sample counts by matrix	2 Water
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17.4-18.9°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4		

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

Organics and PFAS to be subcontracted to SGS Notting Hill
FRP and REDOX received on last day of holding time.
NOx received on second last day of holding time.

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

PE184085

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in	pH in water	SVOC Compounds in Waters by GC-QQQ	TRH in Water MA-30.WW.05 Old & New	USEPA 8260B Additional VOCs in water	USEPA8260B Volatile Organic Compounds in	VPH in Water MA-30
001	A19-BH-01	56	1	24	11	12	69	3
002	T25-MW08	56	1	24	11	12	69	3

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

PE184085

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Acidity and Free CO ₂	Alkalinity	Ammonia Nitrogen by FIA	Calculated Nitrogen Forms - TN, organic N, inorganic	Chloride by Discrete Analyser in Water	Conductivity and TDS by Calculation - Water	Nitrate Nitrogen and Nitrite Nitrogen (NO _x) by FIA	Sulfate in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Dissolved Solids (TDS) in water
001	A19-BH-01	1	3	1	1	1	1	2	1	1	1
002	T25-MW08	1	3	1	1	1	1	2	1	1	1

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

PE184085

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Dissolved Oxygen by Membrane Electrode	Filterable Reactive Phosphorus (FRP)	Mercury (dissolved) in Water	Redox Potential (Eh) in water	Total Phosphorus by Kjeldahl Digestion DA in	Trace Metals (Dissolved) in Water by ICPMS TQe	Trace Metals (Total) in Water by ICPMS TQe
001	A19-BH-01	3	1	1	2	1	16	2
002	T25-MW08	3	1	1	2	1	16	2

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 .

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 14

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

SGS Reference **PE184086 R0**
Date Received 04 Jul 2025
Date Reported 15 Jul 2025

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(898).

8270D: Majority of surrogate recoveries within acceptance criteria.

Organics & PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number 2562 (14420), Report No: ME373576.

Metals: The over range results on ICPMS Method AN318 were reported using ICPOES method AN320.

Sulphate: Majority of the results were taken from the OES due to possible matrix interference on the DA.

TDS in Water: Failed TDS percentage acceptance criteria for sample 5,6,9,10,13,14; sample results were confirmed by repeated EC and TDS analysis.

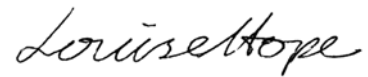
SIGNATORIES



Chiara CAPORALE
Team Leader



Hue Thanh LY
Metals Team Leader



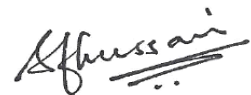
Louise HOPE
Laboratory Technician



Merene HWANG
Lab Manager



Murray O'NEILL
Lab Technician-Nutrients Signatory



Sanaa HUSSAIN
Chemist



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.001	PE184086.002	PE184086.003	PE184086.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW01-UP	SW01-DOWN	SW02-UP	SW02-DOWN

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0023	0.0023	0.0032	0.0039
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0019	0.0023	0.0043	0.0049
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0007	0.0007	0.0015	0.0018
Perfluorooctanoic acid (PFOA)	µg/L	0.0002	0.0006	0.0003	0.0005	0.0010
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0005	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	0.0005	<0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060	0.0096	0.012
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	99	99	102
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	96	96	97	102
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	97	105	92	99
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	99	102	94	101
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	91	99	92	100
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	94	103	106	102
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	89	91	101	92
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	96	105	99	91
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	104	114	94	96
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	109	117	93	94
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	112	119	73	96
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	93	99	84	81
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	102	101	87	87
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	86	98	133	83
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	87	92	78	70
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	65	70	59	58
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	61	67	57	52
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	92	93	130	83
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	102	111	148	84
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	78	78	77	80
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	82	94	124	83
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	85	99	102	78
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	70	90	91	60
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	80	95	119	78

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.001	PE184086.002	PE184086.003	PE184086.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW01-UP	SW01-DOWN	SW02-UP	SW02-DOWN

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

PE184086 R0

			Sample Number	PE184086.001	PE184086.002	PE184086.003	PE184086.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW01-UP	SW01-DOWN	SW02-UP	SW02-DOWN
Parameter	Units	LOR					

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	103	102	101
1,2-Dichloroethane_D4 (Surrogate)	%	-	103	106	106	106
Dibromofluoromethane (Surrogate)	%	-	100	102	103	103
p_Bromofluorobenzene (Surrogate)	%	-	93	94	93	92

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 11/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.001	PE184086.002	PE184086.003	PE184086.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW01-UP	SW01-DOWN	SW02-UP	SW02-DOWN

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 11/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
Total PAHs	µg/L	8	<8	<8	<8	<8
d14-p-terphenyl (Surrogate)	%	0.001	84	95	91	94
d5-nitrobenzene (Surrogate)	%	0.001	96	108	108	106
d6-phenol (Surrogate)	%	0.001	38	44	33	36
2-fluorobiphenyl (Surrogate)	%	0.001	78	60	64	83
2,4,6-tribromophenol (Surrogate)	%	0.001	74	108	82	77
2-fluorophenol (Surrogate)	%	0.001	90	104	87	89

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

pH in water Method: AN101 Tested: 4/7/2025

pH**	pH Units	-	7.7	7.7	7.5	7.5
------	----------	---	-----	-----	-----	-----

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 4/7/2025

Conductivity @ 25 C	µS/cm	2	240	240	310	330
---------------------	-------	---	-----	-----	-----	-----

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 9/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	170	170	190	190
---	------	----	-----	-----	-----	-----



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.001	PE184086.002	PE184086.003	PE184086.004
		Sample Matrix	Water	Water	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
		Sample Name	SW01-UP	SW01-DOWN	SW02-UP	SW02-DOWN
Parameter	Units	LOR				

Acidity and Free CO2 Method: AN140 Tested: 4/7/2025

Acidity to pH 8.3	mg CaCO3/L	5	<5	<5	<5	<5
-------------------	------------	---	----	----	----	----

Alkalinity Method: AN135 Tested: 4/7/2025

Total Alkalinity as CaCO3	mg/L	5	56	57	50	52
Carbonate Alkalinity as CO3	mg/L	1	<1	<1	<1	<1
Bicarbonate Alkalinity as HCO3	mg/L	5	68	70	61	63

Chloride by Discrete Analyser in Water Method: AN274 Tested: 8/7/2025

Chloride, Cl	mg/L	1	30	31	53	53
--------------	------	---	----	----	----	----

Sulfate in water Method: AN275 Tested: 8/7/2025

Sulfate, SO4	mg/L	1	16	16	20	23
--------------	------	---	----	----	----	----

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 8/7/2025

Ammonia Nitrogen, NH3 as N	mg/L	0.05	<0.05	<0.05	0.07	<0.05
----------------------------	------	------	-------	-------	------	-------

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 8/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	0.89	0.96	0.60	0.53
-------------------------	------	------	------	------	------	------



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.001	PE184086.002	PE184086.003	PE184086.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW01-UP	SW01-DOWN	SW02-UP	SW02-DOWN

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 14/7/2025

Total Nitrogen (calc)	mg/L	0.05	1.2	1.3	0.87	0.80
-----------------------	------	------	-----	-----	------	------

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: AN258 Tested: 8/7/2025

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.36	0.36	0.27	0.27

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 4/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	0.009	0.008	0.011	0.010
-------------------------------------	------	-------	-------	-------	-------	-------

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 8/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.05	0.07	0.05	0.05
--	------	------	------	------	------	------

Redox Potential (Eh) in water Method: AN240 Tested: 4/7/2025

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	353	353	353	354
Temperature of Sample*	°C	0.1	23.1	22.2	20.7	19.8

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 4/7/2025

Temperature*	°C	-	17.8	17.8	17.7	17.7
Dissolved Oxygen**	mg/L	0.5	8.8	8.9	8.1	8.2
Dissolved Oxygen (percent saturation)**	%	1	92.8	93.9	85.9	86.7



ANALYTICAL REPORT

PE184086 R0

			Sample Number	PE184086.001	PE184086.002	PE184086.003	PE184086.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW01-UP	SW01-DOWN	SW02-UP	SW02-DOWN
Parameter	Units	LOR					

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 9/7/2025

Aluminium	µg/L	5	23	28	450	470
Arsenic	µg/L	0.5	<0.5	<0.5	0.6	0.6
Barium	µg/L	0.2	22	23	19	19
Beryllium	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Boron	µg/L	5	23	24	24	25
Cadmium	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
Chromium	µg/L	0.5	<0.5	<0.5	0.7	0.8
Cobalt	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Copper	µg/L	0.5	1.0	1.0	2.8	2.0
Iron	µg/L	5	60	67	240	280
Lead	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Manganese	µg/L	1	<1	<1	4	4
Nickel	µg/L	1	<1	<1	<1	<1
Selenium	µg/L	1	<1	<1	<1	<1
Vanadium	µg/L	0.5	0.7	0.8	1.1	1.0
Zinc	µg/L	1	1	1	5	5

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 9/7/2025

Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
---------	------	---------	----------	----------	----------	----------

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 9/7/2025

Total Aluminium	µg/L	5	2900	3000	710	780
Total Iron	µg/L	5	2000	2100	440	480



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.005	PE184086.006	PE184086.007	PE184086.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW04-UP	SW04-DOWN	SW05-UP	SW05-DOWN

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0039	0.0040	0.0099	0.0081
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	0.0080	0.0081
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0005	0.0010	0.0044	0.0043
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	0.0006	0.0010
Perfluorooctanoic acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0028	0.0017	0.0010	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.0009	0.0012	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	0.0037	0.0029	0.0010	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	0.0082	0.0079	0.022	0.022
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	102	103	101	98
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	95	96	146	146
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	95	99	91	89
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	102	104	97	103
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	94	97	98	103
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	86	104	102	94
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	95	83	93	127
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	92	100	97	99
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	91	90	105	98
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	94	106	108	104
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	91	98	99	97
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	94	102	86	91
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	92	113	103	107
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	121	97	109	106
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	92	102	80	78
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	72	82	71	73
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	73	82	70	66
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	85	92	95	104
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	91	117	109	93
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	82	82	53	84
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	125	105	87	101
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	124	86	90	102
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	85	80	61	79
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	122	75	77	83

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.005	PE184086.006	PE184086.007	PE184086.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW04-UP	SW04-DOWN	SW05-UP	SW05-DOWN

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.005	PE184086.006	PE184086.007	PE184086.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW04-UP	SW04-DOWN	SW05-UP	SW05-DOWN

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	104	103	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	106	106	108	108
Dibromofluoromethane (Surrogate)	%	-	104	104	106	106
p_Bromofluorobenzene (Surrogate)	%	-	92	94	94	93

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 11/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.005	PE184086.006	PE184086.007	PE184086.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW04-UP	SW04-DOWN	SW05-UP	SW05-DOWN

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 11/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
Total PAHs	µg/L	8	<8	<8	<8	<8
d14-p-terphenyl (Surrogate)	%	0.001	85	90	87	89
d5-nitrobenzene (Surrogate)	%	0.001	100	103	92	99
d6-phenol (Surrogate)	%	0.001	35	37	55	50
2-fluorobiphenyl (Surrogate)	%	0.001	66	87	89	95
2,4,6-tribromophenol (Surrogate)	%	0.001	92	88	97	108
2-fluorophenol (Surrogate)	%	0.001	102	89	117	114

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

pH in water Method: AN101 Tested: 4/7/2025

pH**	pH Units	-	6.8	6.8	6.7	6.8
------	----------	---	-----	-----	-----	-----

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 4/7/2025

Conductivity @ 25 C	µS/cm	2	200	210	680	680
---------------------	-------	---	-----	-----	-----	-----

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 9/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	220	220	520	370
---	------	----	-----	-----	-----	-----



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.005	PE184086.006	PE184086.007	PE184086.008
		Sample Matrix	Water	Water	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
		Sample Name	SW04-UP	SW04-DOWN	SW05-UP	SW05-DOWN
Parameter	Units	LOR				

Acidity and Free CO2 Method: AN140 Tested: 4/7/2025

Acidity to pH 8.3	mg CaCO3/L	5	<5	<5	8	9
-------------------	------------	---	----	----	---	---

Alkalinity Method: AN135 Tested: 4/7/2025

Total Alkalinity as CaCO3	mg/L	5	12	11	24	18
Carbonate Alkalinity as CO3	mg/L	1	<1	<1	<1	<1
Bicarbonate Alkalinity as HCO3	mg/L	5	15	13	30	22

Chloride by Discrete Analyser in Water Method: AN274 Tested: 8/7/2025

Chloride, Cl	mg/L	1	37	37	170	170
--------------	------	---	----	----	-----	-----

Sulfate in water Method: AN275 Tested: 8/7/2025

Sulfate, SO4	mg/L	1	7	6	44	44
--------------	------	---	---	---	----	----

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 8/7/2025

Ammonia Nitrogen, NH3 as N	mg/L	0.05	<0.05	<0.05	0.05	0.10
----------------------------	------	------	-------	-------	------	------

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 8/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	1.5	1.5	5.2	5.1
-------------------------	------	------	-----	-----	-----	-----



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.005	PE184086.006	PE184086.007	PE184086.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW04-UP	SW04-DOWN	SW05-UP	SW05-DOWN

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 14/7/2025

Total Nitrogen (calc)	mg/L	0.05	1.8	1.9	5.4	5.3
-----------------------	------	------	-----	-----	-----	-----

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: AN258 Tested: 8/7/2025

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.34	0.35	0.20	0.19

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 4/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	0.010	0.005	0.13	0.14
-------------------------------------	------	-------	-------	-------	------	------

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 8/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.20	0.18	0.40	0.36
--	------	------	------	------	------	------

Redox Potential (Eh) in water Method: AN240 Tested: 4/7/2025

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	349	349	361	362
Temperature of Sample*	°C	0.1	20.9	20.8	19.4	19.4

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 4/7/2025

Temperature*	°C	-	17.8	18.0	18.2	18.0
Dissolved Oxygen**	mg/L	0.5	8.4	8.3	8.0	7.0
Dissolved Oxygen (percent saturation)**	%	1	88.6	88.1	84.8	74.0



ANALYTICAL REPORT

PE184086 R0

			Sample Number	PE184086.005	PE184086.006	PE184086.007	PE184086.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW04-UP	SW04-DOWN	SW05-UP	SW05-DOWN
Parameter	Units	LOR					

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 9/7/2025

Aluminium	µg/L	5	40	69	250	260
Arsenic	µg/L	0.5	<0.5	<0.5	0.9	0.9
Barium	µg/L	0.2	19	21	34	34
Beryllium	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Boron	µg/L	5	38	38	42	43
Cadmium	µg/L	0.05	<0.05	<0.05	0.07	0.07
Chromium	µg/L	0.5	<0.5	<0.5	0.8	0.9
Cobalt	µg/L	0.5	<0.5	<0.5	1.1	1.1
Copper	µg/L	0.5	1.6	1.5	3.5	3.6
Iron	µg/L	5	120	120	2800	2800
Lead	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Manganese	µg/L	1	28	26	60	69
Nickel	µg/L	1	<1	<1	1	1
Selenium	µg/L	1	<1	<1	<1	<1
Vanadium	µg/L	0.5	0.6	0.6	1.4	1.5
Zinc	µg/L	1	4	4	16	16

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 9/7/2025

Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
---------	------	---------	----------	----------	----------	----------

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 9/7/2025

Total Aluminium	µg/L	5	13000	13000	790	300
Total Iron	µg/L	5	16000	15000	4800	3600



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.009	PE184086.010	PE184086.011	PE184086.012
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW06-UP	SW06-DOWN	SW07-UP	SW07-DOWN

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0015	0.0007	0.0023	0.0025
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005	<0.0005	0.0029	0.0026
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	0.0011	0.0013
Perfluorooctanoic acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	0.0014	0.0017
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002	0.0029	0.0038
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	0.0054	0.011
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002	0.0084	0.015
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060	0.016	0.023
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	102	100	102
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	97	98	97	99
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	98	101	99	96
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	104	104	103	98
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	101	101	101	89
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	102	96	96	88
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	100	121	101	97
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	110	109	97	88
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	100	110	100	96
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	94	105	104	103
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	91	81	98	88
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	102	89	102	82
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	130	106	108	90
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	112	104	93	122
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	98	79	101	84
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	73	60	75	57
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	64	68	64	52
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	109	114	97	106
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	108	62	61	80
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	84	87	60	56
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	115	113	102	95
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	106	97	86	104
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	80	83	69	81
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	112	83	88	101

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025



ANALYTICAL REPORT

PE184086 R0

			Sample Number	PE184086.009	PE184086.010	PE184086.011	PE184086.012
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW06-UP	SW06-DOWN	SW07-UP	SW07-DOWN
Parameter	Units	LOR					

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.009	PE184086.010	PE184086.011	PE184086.012
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW06-UP	SW06-DOWN	SW07-UP	SW07-DOWN

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	104	103	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	106	107	123	109
Dibromofluoromethane (Surrogate)	%	-	103	105	106	106
p_Bromofluorobenzene (Surrogate)	%	-	92	93	94	93

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 11/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.009	PE184086.010	PE184086.011	PE184086.012
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW06-UP	SW06-DOWN	SW07-UP	SW07-DOWN

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 11/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
Total PAHs	µg/L	8	<8	<8	<8	<8
d14-p-terphenyl (Surrogate)	%	0.001	93	87	79	90
d5-nitrobenzene (Surrogate)	%	0.001	89	86	102	105
d6-phenol (Surrogate)	%	0.001	34	53	52	59
2-fluorobiphenyl (Surrogate)	%	0.001	92	77	66	95
2,4,6-tribromophenol (Surrogate)	%	0.001	102	102	84	98
2-fluorophenol (Surrogate)	%	0.001	95	120	102	116

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

pH in water Method: AN101 Tested: 4/7/2025

pH**	pH Units	-	6.6	6.6	7.3	7.3
------	----------	---	-----	-----	-----	-----

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 4/7/2025

Conductivity @ 25 C	µS/cm	2	320	320	210	210
---------------------	-------	---	-----	-----	-----	-----

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 9/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	270	280	140	120
---	------	----	-----	-----	-----	-----



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.009	PE184086.010	PE184086.011	PE184086.012
		Sample Matrix	Water	Water	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
		Sample Name	SW06-UP	SW06-DOWN	SW07-UP	SW07-DOWN
Parameter	Units	LOR				

Acidity and Free CO2 Method: AN140 Tested: 4/7/2025

Acidity to pH 8.3	mg CaCO3/L	5	15	15	<5	<5
-------------------	------------	---	----	----	----	----

Alkalinity Method: AN135 Tested: 4/7/2025

Total Alkalinity as CaCO3	mg/L	5	24	26	32	32
Carbonate Alkalinity as CO3	mg/L	1	<1	<1	<1	<1
Bicarbonate Alkalinity as HCO3	mg/L	5	29	31	39	38

Chloride by Discrete Analyser in Water Method: AN274 Tested: 8/7/2025

Chloride, Cl	mg/L	1	60	60	34	34
--------------	------	---	----	----	----	----

Sulfate in water Method: AN275 Tested: 8/7/2025

Sulfate, SO4	mg/L	1	29	27	13	13
--------------	------	---	----	----	----	----

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 8/7/2025

Ammonia Nitrogen, NH3 as N	mg/L	0.05	0.21	<0.05	<0.05	<0.05
----------------------------	------	------	------	-------	-------	-------

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 8/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	1.8	0.99	0.67	0.46
-------------------------	------	------	-----	------	------	------



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.009	PE184086.010	PE184086.011	PE184086.012
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW06-UP	SW06-DOWN	SW07-UP	SW07-DOWN

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 14/7/2025

Total Nitrogen (calc)	mg/L	0.05	2.3	1.7	0.88	0.64
-----------------------	------	------	-----	-----	------	------

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: AN258 Tested: 8/7/2025

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.57	0.69	0.20	0.18

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 4/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	0.006	0.003	0.041	0.041
-------------------------------------	------	-------	-------	-------	-------	-------

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 8/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.11	0.12	0.08	0.08
--	------	------	------	------	------	------

Redox Potential (Eh) in water Method: AN240 Tested: 4/7/2025

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	359	360	350	348
Temperature of Sample*	°C	0.1	19.0	19.1	22.6	22.1

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 4/7/2025

Temperature*	°C	-	18.0	18.0	18.1	18.2
Dissolved Oxygen**	mg/L	0.5	2.5	4.1	8.5	8.6
Dissolved Oxygen (percent saturation)**	%	1	26.0	43.5	89.4	91.3



ANALYTICAL REPORT

PE184086 R0

Parameter	Units	LOR	Sample Number	PE184086.009	PE184086.010	PE184086.011	PE184086.012
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SW06-UP	SW06-DOWN	SW07-UP	SW07-DOWN

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 9/7/2025

Aluminium	µg/L	5	230	250	510	290
Arsenic	µg/L	0.5	<0.5	<0.5	0.5	0.6
Barium	µg/L	0.2	26	28	13	12
Beryllium	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Boron	µg/L	5	20	19	23	22
Cadmium	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
Chromium	µg/L	0.5	<0.5	<0.5	0.7	<0.5
Cobalt	µg/L	0.5	1.0	1.1	<0.5	<0.5
Copper	µg/L	0.5	2.1	1.2	2.2	1.8
Iron	µg/L	5	1000	1100	260	160
Lead	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Manganese	µg/L	1	120	140	2	<1
Nickel	µg/L	1	<1	<1	<1	<1
Selenium	µg/L	1	<1	<1	<1	<1
Vanadium	µg/L	0.5	2.1	2.0	1.5	1.3
Zinc	µg/L	1	9	5	8	4

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 9/7/2025

Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
---------	------	---------	----------	----------	----------	----------

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 9/7/2025

Total Aluminium	µg/L	5	1400	1100	980	960
Total Iron	µg/L	5	3300	3000	450	410



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.013	PE184086.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	SW03-UP	SW03-DOWN
Parameter	Units	LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0017	0.0020
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0012	0.0017
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0005	0.0006
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0006	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	0.0003
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	0.0003
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	101
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	98	95
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	96	104
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	92	103
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	92	99
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	105	93
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	127	97
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	94	85
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	85	85
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	68	52
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	40	30
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	94	90
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	112	90
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	85	102
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	95	97
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	76	73
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	68	75
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	105	110
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	62	40
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	38	47
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	78	88
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	92	96
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	65	88
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	93	104

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.013	PE184086.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	SW03-UP	SW03-DOWN
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

Benzene	mg/L	0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.013	PE184086.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	SW03-UP	SW03-DOWN
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water **Method: USEPA 8260B** **Tested: 11/7/2025** **(continued)**

m&p-Xylenes	mg/L	0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	109	109
Dibromofluoromethane (Surrogate)	%	-	106	105
p_Bromofluorobenzene (Surrogate)	%	-	92	92

VPH in Water MA-30 **Method: MA30-VPH** **Tested: 11/7/2025**

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.013	PE184086.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	SW03-UP	SW03-DOWN
Parameter	Units	LOR		

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 11/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 11/7/2025

Acenaphthene	µg/L	1	<1	<1
Acenaphthylene	µg/L	1	<1	<1
Anthracene	µg/L	1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2
Chrysene	µg/L	1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1
Fluoranthene	µg/L	1	<1	<1
Fluorene	µg/L	1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1
Naphthalene	µg/L	1	<1	<1
Phenanthrene	µg/L	1	<1	<1
Pyrene	µg/L	1	<1	<1
Total PAHs	µg/L	8	<8	<8
d14-p-terphenyl (Surrogate)	%	0.001	86	80
d5-nitrobenzene (Surrogate)	%	0.001	106	98
d6-phenol (Surrogate)	%	0.001	34	29
2-fluorobiphenyl (Surrogate)	%	0.001	70	97
2,4,6-tribromophenol (Surrogate)	%	0.001	78	72
2-fluorophenol (Surrogate)	%	0.001	74	74

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.013	PE184086.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	SW03-UP	SW03-DOWN
Parameter	Units	LOR		

pH in water Method: AN101 Tested: 4/7/2025

pH**	pH Units	-	7.5	7.6
------	----------	---	-----	-----

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 4/7/2025

Conductivity @ 25 C	µS/cm	2	210	210
---------------------	-------	---	-----	-----

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 9/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	280	250
---	------	----	-----	-----

Acidity and Free CO₂ Method: AN140 Tested: 4/7/2025

Acidity to pH 8.3	mg CaCO ₃ /L	5	<5	<5
-------------------	-------------------------	---	----	----

Alkalinity Method: AN135 Tested: 4/7/2025

Total Alkalinity as CaCO ₃	mg/L	5	47	46
Carbonate Alkalinity as CO ₃	mg/L	1	<1	<1
Bicarbonate Alkalinity as HCO ₃	mg/L	5	57	56

Chloride by Discrete Analyser in Water Method: AN274 Tested: 8/7/2025

Chloride, Cl	mg/L	1	29	29
--------------	------	---	----	----



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.013	PE184086.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	SW03-UP	SW03-DOWN
Parameter	Units	LOR		

Sulfate in water Method: AN275 Tested: 8/7/2025

Sulfate, SO ₄	mg/L	1	10	11
--------------------------	------	---	----	----

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 8/7/2025

Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	0.07	<0.05
--	------	------	------	-------

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 8/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	1.4	1.5
-------------------------	------	------	-----	-----

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 14/7/2025

Total Nitrogen (calc)	mg/L	0.05	1.9	2.0
-----------------------	------	------	-----	-----

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA Method: AN258 Tested: 8/7/2025

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.50	0.47

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 4/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	0.009	0.009
-------------------------------------	------	-------	-------	-------



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.013	PE184086.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	SW03-UP	SW03-DOWN
Parameter	Units	LOR		

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 8/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.12	0.11
--	------	------	-------------	-------------

Redox Potential (Eh) in water Method: AN240 Tested: 4/7/2025

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	348	346
Temperature of Sample*	°C	0.1	22.0	21.8

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 4/7/2025

Temperature*	°C	-	17.9	18.3
Dissolved Oxygen**	mg/L	0.5	8.7	8.7
Dissolved Oxygen (percent saturation)**	%	1	91.6	91.5

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 9/7/2025

Aluminium	µg/L	5	1700	44
Arsenic	µg/L	0.5	<0.5	<0.5
Barium	µg/L	0.2	34	13
Beryllium	µg/L	0.1	0.1	<0.1
Boron	µg/L	5	23	21
Cadmium	µg/L	0.05	<0.05	<0.05
Chromium	µg/L	0.5	2.7	<0.5
Cobalt	µg/L	0.5	<0.5	<0.5
Copper	µg/L	0.5	4.2	1.0
Iron	µg/L	5	1000	81
Lead	µg/L	0.5	7.4	<0.5
Manganese	µg/L	1	10	2
Nickel	µg/L	1	<1	<1
Selenium	µg/L	1	<1	<1
Vanadium	µg/L	0.5	10	1.6
Zinc	µg/L	1	22	2

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 9/7/2025

Mercury	mg/L	0.00005	0.00006	<0.00005
---------	------	---------	----------------	----------



ANALYTICAL REPORT

PE184086 R0

		Sample Number	PE184086.013	PE184086.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	SW03-UP	SW03-DOWN
Parameter	Units	LOR		

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 9/7/2025

Total Aluminium	µg/L	5	15000	12000
Total Iron	µg/L	5	3700	2900

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.

Acidity and Free CO₂ Method: ME-(AU)-[ENV]AN140

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acidity to pH 8.3	LB231609	mg CaCO ₃ /L	5	<5	0 - 2%	104%

Alkalinity Method: ME-(AU)-[ENV]AN135

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Alkalinity as CaCO ₃	LB231599	mg/L	5	<5	1%	100%
	LB231601	mg/L	5	<5	1 - 11%	98%
Carbonate Alkalinity as CO ₃	LB231599	mg/L	1	<1		
	LB231601	mg/L	1	<1		
Bicarbonate Alkalinity as HCO ₃	LB231599	mg/L	5	<5		
	LB231601	mg/L	5	<5		

Ammonia Nitrogen by FIA Method: ME-(AU)-[ENV]AN261/AN262

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Ammonia Nitrogen, NH ₃ as N	LB231576	mg/L	0.05	<0.05	0 - 5%	102%	101%

Chloride by Discrete Analyser in Water Method: ME-(AU)-[ENV]AN274

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Chloride, Cl	LB231596	mg/L	1	<1	3%	99%	94%

Conductivity and TDS by Calculation - Water Method: ME-(AU)-[ENV]AN106

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Conductivity @ 25 C	LB231605	µS/cm	2	<2	0 - 1%	101%
	LB231607	µS/cm	2	<2	0%	101%

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.

Dissolved Oxygen by Membrane Electrode Method: ME-(AU)-[ENV]AN176

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Temperature*	LB231606	°C	-	19.5		
Dissolved Oxygen**	LB231606	mg/L	0.5	<0.5	0%	115%
Dissolved Oxygen (percent saturation)**	LB231606	%	1	<1.0		

Filterable Reactive Phosphorus (FRP) Method: ME-(AU)-[ENV]AN278

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Filterable Reactive Phosphorus as P	LB231563	mg/L	0.002	<0.002	0%	104%	105%

Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Mercury	LB231658	mg/L	0.00005	<0.00005	0%	111%	115%

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: ME-(AU)-[ENV]AN258

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Nitrite Nitrogen, NO ₂ as N	LB231576	mg/L	0.05	<0.05	0%	94%	94%
Nitrate Nitrogen, NO ₃ as N	LB231576	mg/L	0.05	<0.05	1 - 2%	NA	NA

pH in water Method: ME-(AU)-[ENV]AN101

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
pH**	LB231605	pH Units	-	5.6	0 - 1%	100%
	LB231607	pH Units	-	6.3	0 - 1%	100%

Redox Potential (Eh) in water Method: ME-(AU)-[ENV]AN240

Parameter	QC Reference	Units	LOR	DUP %RPD	LCS %Recovery
Eh of Sample Relative to Standard H+ Electrode***	LB231604	mV	-500	0%	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.

Sulfate in water Method: ME-(AU)-[ENV]AN275

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Sulfate, SO4	LB231596	mg/L	1	<1	2 - 3%	93 - 98%	97 - 100%

TKN Kjeldahl Digestion by Discrete Analyser Method: ME-(AU)-[ENV]AN281

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Kjeldahl Nitrogen	LB231593	mg/L	0.05	<0.05	9 - 11%	101%

Total Dissolved Solids (TDS) in water Method: ME-(AU)-[ENV]AN113

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Total Dissolved Solids Dried at 175-185°C	LB231625	mg/L	10	<10	2%	101%	97%	0%
	LB231627	mg/L	10	<10	0 - 2%	102%	104%	5%

Total Phosphorus by Kjeldahl Digestion DA in Water Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Phosphorus (Kjeldahl Digestion) as P	LB231592	mg/L	0.02	<0.02	7 - 38%	95%

Trace Metals (Dissolved) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Aluminium	LB231615	µg/L	5	<5	2 - 5%	102%	1232%
Arsenic	LB231615	µg/L	0.5	<0.5	0 - 2%	101%	103%
Barium	LB231615	µg/L	0.2	<0.2	0 - 4%	106%	75%
Beryllium	LB231615	µg/L	0.1	<0.1	0%	103%	94%
Boron	LB231615	µg/L	5	<5	1 - 5%	110%	94%
Cadmium	LB231615	µg/L	0.05	<0.05	0 - 4%	103%	100%
Chromium	LB231615	µg/L	0.5	<0.5	0 - 2%	106%	109%
Cobalt	LB231615	µg/L	0.5	<0.5	0 - 1%	105%	95%
Copper	LB231615	µg/L	0.5	<0.5	2 - 5%	105%	94%
Iron	LB231615	µg/L	5	<5	0 - 5%	119%	-648%
Lead	LB231615	µg/L	0.5	<0.5	0%	104%	98%
Manganese	LB231615	µg/L	1	<1	1 - 8%	103%	-384%
Nickel	LB231615	µg/L	1	<1	0 - 3%	113%	109%
Selenium	LB231615	µg/L	1	<1	0%	102%	103%
Vanadium	LB231615	µg/L	0.5	<0.5	1 - 4%	103%	111%
Zinc	LB231615	µg/L	1	<1	2 - 34%	118%	97%



QC SUMMARY

PE184086 R0

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.

Trace Metals (Total) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN022/AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Total Aluminium	LB231614	µg/L	5	<5	1 - 8%	103%	179%
Total Iron	LB231614	µg/L	5	<5	0 - 2%	NA	NA

METHOD

METHODOLOGY SUMMARY

AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
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 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. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN140	Acidity by Titration: The water sample is titrated with sodium hydroxide to designated pH end point. In a sample containing only carbon dioxide, bicarbonates and carbonates, titration to pH 8.3 at 25°C corresponds to stoichiometric neutralisation of carbonic acid to bicarbonate. Method reference APHA 2310 B.
AN176	Dissolved Oxygen: DO can also be measured directly using an oxygen permeable membrane electrode and meter. Under steady state conditions the current is directly proportional to the DO conc. DO can also be measured via Luminescent dissolved oxygen probes (LDO) which also operates using an oxygen permeable membrane with an oxygen sensitive luminescent dye making up the second probe layer. The presence of oxygen causes changes in the lifetime and intensity of luminescence, which are then quantified. Zero headspace is required for sample analysis, if headspace is observed report comment will be recorded. Reference APHA 4500-C, G & O.
AN240	Oxidation-Reduction Potential (Eh): Electrometric measurements are made by potentiometric determination of electron activity (or intensity) with an inert indicator electrode and a suitable reference electrode. At redox equilibrium, the potential difference between the two electrodes equals the redox potential of the system. This measurement is then corrected for the difference between the potential of the reference electrode and that of the standard hydrogen electrode.
AN258	Nitrate and Nitrite by FIA: In an acidic medium, nitrate is reduced quantitatively to nitrite by cadmium metal. This nitrite plus any original nitrite is determined as an intense red-pink azo dye at 540 nm following diazotisation with sulphanilamide and subsequent coupling with N-(1-naphthyl) ethylenediamine dihydrochloride. Without the cadmium reduction only the original nitrite is determined. Reference APHA 4500-NO3- F.
AN262	Ammonia in solution is reacted with o-phthalaldehyde (OPA) to form a fluorescent compound. The reaction product is detected by a fluorimeter and the response is measured via FIA using a photomultiplier detector. The response is directly proportional to the concentration of ammonia in the sample.

METHOD

METHODOLOGY SUMMARY

AN274	Chloride by Discrete Analyse: Chloride reacts with mercuric thiocyanate forming a mercuric chloride complex. In the presence of ferric iron, highly coloured ferric thiocyanate is formed which is proportional to the chloride concentration. Reference APHA 4500CI-
AN275	Sulfate by Discrete Analyse: sulfate is precipitated in an acidic medium with barium chloride. The resulting turbidity is measured photometrically at 405nm and compared with standard calibration solutions to determine the sulfate concentration in the sample. Reference APHA 4500-SO42-. Internal reference AN275.
AN278	Filterable Reactive Phosphorus by DA (determined on filtered sample): Orthophosphate reacts with ammonium molybdate (Mo VI) and potassium antimonyl tartrate (Sb III) in acid medium to form an antimony-phosphomolybdate complex. This complex is subsequently reduced with ascorbic acid to form a blue colour and the absorbance is read at 880 nm. The sensitivity of the automated method is 10-20 times that of the macro method. Reference APHA 4500-P F
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digester with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.
AN281/292	Calculation of total nitrogen and organic nitrogen.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: 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.
AN318	Determination of elements at trace level in waters by ICP-MS technique, referenced to USEPA 6020B and USEPA 200.8 (5.4).
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.
EPA 8260B-01	This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).
EPA8260B	Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

METHOD

METHODOLOGY SUMMARY

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40.

The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions".

Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS)

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC–QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting .

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

PE184086 R0

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 14

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

SGS Reference **PE184086 R0**
Date Received 04 Jul 2025
Date Reported 15 Jul 2025

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:

Surrogate	SVOC Compounds in Waters by GC-QQQ	8 items
Matrix Spike	Trace Metals (Dissolved) in Water by ICPMS TQe	4 items
	Trace Metals (Total) in Water by ICPMS TQe	1 item

SAMPLE SUMMARY

Date documentation received	14 Water	Sample counts by matrix	4/7/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17.4-18.9°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4		

SGS Australia Pty Ltd
ABN 44 000 964 278

Environment, Health and
Safety

28 Reid Rd
PO Box 32
Perth Airport WA 6105
Welshpool WA 6983

Australia t +61 8 9373 3500
Australia f +61 8 9373 3556

www.sgs.com.au



HOLDING TIME SUMMARY

PE184086 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 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.

Acidity and Free CO₂

Method: ME-(AU)-ENVJAN140

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW01-DOWN	PE184086.002	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW02-UP	PE184086.003	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW02-DOWN	PE184086.004	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW04-UP	PE184086.005	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW04-DOWN	PE184086.006	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW05-UP	PE184086.007	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW05-DOWN	PE184086.008	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW06-UP	PE184086.009	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW06-DOWN	PE184086.010	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW07-UP	PE184086.011	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW07-DOWN	PE184086.012	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW03-UP	PE184086.013	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW03-DOWN	PE184086.014	LB231609	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025

Alkalinity

Method: ME-(AU)-ENVJAN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231599	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW01-DOWN	PE184086.002	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW02-UP	PE184086.003	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW02-DOWN	PE184086.004	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW04-UP	PE184086.005	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW04-DOWN	PE184086.006	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW05-UP	PE184086.007	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW05-DOWN	PE184086.008	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW06-UP	PE184086.009	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW06-DOWN	PE184086.010	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW07-UP	PE184086.011	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW07-DOWN	PE184086.012	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW03-UP	PE184086.013	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025
SW03-DOWN	PE184086.014	LB231601	03 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025	17 Jul 2025	04 Jul 2025

Ammonia Nitrogen by FIA

Method: ME-(AU)-ENVJAN261/AN262

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW01-DOWN	PE184086.002	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW02-UP	PE184086.003	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW02-DOWN	PE184086.004	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW04-UP	PE184086.005	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW04-DOWN	PE184086.006	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW05-UP	PE184086.007	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW05-DOWN	PE184086.008	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW06-UP	PE184086.009	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW06-DOWN	PE184086.010	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW07-UP	PE184086.011	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW07-DOWN	PE184086.012	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW03-UP	PE184086.013	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW03-DOWN	PE184086.014	LB231576	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025

Chloride by Discrete Analyser in Water

Method: ME-(AU)-ENVJAN274

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW01-DOWN	PE184086.002	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW02-UP	PE184086.003	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW02-DOWN	PE184086.004	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW04-UP	PE184086.005	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW04-DOWN	PE184086.006	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW05-UP	PE184086.007	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW05-DOWN	PE184086.008	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW06-UP	PE184086.009	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW06-DOWN	PE184086.010	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025



HOLDING TIME SUMMARY

PE184086 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 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.

Chloride by Discrete Analyser in Water (continued)

Method: ME-(AU)-[ENV]AN274

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW07-UP	PE184086.011	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW07-DOWN	PE184086.012	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW03-UP	PE184086.013	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW03-DOWN	PE184086.014	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025

Conductivity and TDS by Calculation - Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231605	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW01-DOWN	PE184086.002	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW02-UP	PE184086.003	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW02-DOWN	PE184086.004	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW04-UP	PE184086.005	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW04-DOWN	PE184086.006	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW05-UP	PE184086.007	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW05-DOWN	PE184086.008	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW06-UP	PE184086.009	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW06-DOWN	PE184086.010	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW07-UP	PE184086.011	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW07-DOWN	PE184086.012	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW03-UP	PE184086.013	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW03-DOWN	PE184086.014	LB231607	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW01-DOWN	PE184086.002	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW02-UP	PE184086.003	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW02-DOWN	PE184086.004	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW04-UP	PE184086.005	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW04-DOWN	PE184086.006	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW05-UP	PE184086.007	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW05-DOWN	PE184086.008	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW06-UP	PE184086.009	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW06-DOWN	PE184086.010	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW07-UP	PE184086.011	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW07-DOWN	PE184086.012	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW03-UP	PE184086.013	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW03-DOWN	PE184086.014	LB231606	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW01-DOWN	PE184086.002	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW02-UP	PE184086.003	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW02-DOWN	PE184086.004	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW04-UP	PE184086.005	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW04-DOWN	PE184086.006	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW05-UP	PE184086.007	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW05-DOWN	PE184086.008	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW06-UP	PE184086.009	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW06-DOWN	PE184086.010	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW07-UP	PE184086.011	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW07-DOWN	PE184086.012	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW03-UP	PE184086.013	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025
SW03-DOWN	PE184086.014	LB231563	03 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025	31 Jul 2025	04 Jul 2025

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW01-DOWN	PE184086.002	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW02-UP	PE184086.003	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW02-DOWN	PE184086.004	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025



HOLDING TIME SUMMARY

PE184086 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 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.

Mercury (dissolved) in Water (continued)

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW04-UP	PE184086.005	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW04-DOWN	PE184086.006	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW05-UP	PE184086.007	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW05-DOWN	PE184086.008	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW06-UP	PE184086.009	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW06-DOWN	PE184086.010	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW07-UP	PE184086.011	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW07-DOWN	PE184086.012	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW03-UP	PE184086.013	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
SW03-DOWN	PE184086.014	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW01-DOWN	PE184086.002	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW02-UP	PE184086.003	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW02-DOWN	PE184086.004	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW04-UP	PE184086.005	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW04-DOWN	PE184086.006	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW05-UP	PE184086.007	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW05-DOWN	PE184086.008	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW06-UP	PE184086.009	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW06-DOWN	PE184086.010	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW07-UP	PE184086.011	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW07-DOWN	PE184086.012	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW03-UP	PE184086.013	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025
SW03-DOWN	PE184086.014	LB231576	03 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025	07 Jul 2025	04 Jul 2025

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231605	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW01-DOWN	PE184086.002	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW02-UP	PE184086.003	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW02-DOWN	PE184086.004	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW04-UP	PE184086.005	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW04-DOWN	PE184086.006	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW05-UP	PE184086.007	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW05-DOWN	PE184086.008	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW06-UP	PE184086.009	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW06-DOWN	PE184086.010	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW07-UP	PE184086.011	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW07-DOWN	PE184086.012	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW03-UP	PE184086.013	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW03-DOWN	PE184086.014	LB231607	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW01-DOWN	PE184086.002	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW02-UP	PE184086.003	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW02-DOWN	PE184086.004	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW04-UP	PE184086.005	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW04-DOWN	PE184086.006	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW05-UP	PE184086.007	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW05-DOWN	PE184086.008	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW06-UP	PE184086.009	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW06-DOWN	PE184086.010	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW07-UP	PE184086.011	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW07-DOWN	PE184086.012	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW03-UP	PE184086.013	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
SW03-DOWN	PE184086.014	LB231604	03 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025



HOLDING TIME SUMMARY

PE184086 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 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.

Sulfate in water

Method: ME-(AU)-ENVJAN275

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW01-DOWN	PE184086.002	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW02-UP	PE184086.003	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW02-DOWN	PE184086.004	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW04-UP	PE184086.005	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW04-DOWN	PE184086.006	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW05-UP	PE184086.007	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW05-DOWN	PE184086.008	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW06-UP	PE184086.009	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW06-DOWN	PE184086.010	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW07-UP	PE184086.011	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW07-DOWN	PE184086.012	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW03-UP	PE184086.013	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025
SW03-DOWN	PE184086.014	LB231596	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-ENVJAN281

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW01-DOWN	PE184086.002	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW02-UP	PE184086.003	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW02-DOWN	PE184086.004	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW04-UP	PE184086.005	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW04-DOWN	PE184086.006	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW05-UP	PE184086.007	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW05-DOWN	PE184086.008	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW06-UP	PE184086.009	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW06-DOWN	PE184086.010	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW07-UP	PE184086.011	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW07-DOWN	PE184086.012	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW03-UP	PE184086.013	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW03-DOWN	PE184086.014	LB231593	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-ENVJAN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231627	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW01-DOWN	PE184086.002	LB231627	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW02-UP	PE184086.003	LB231625	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW02-DOWN	PE184086.004	LB231627	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW04-UP	PE184086.005	LB231625	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW04-DOWN	PE184086.006	LB231625	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW05-UP	PE184086.007	LB231627	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW05-DOWN	PE184086.008	LB231625	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW06-UP	PE184086.009	LB231625	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW06-DOWN	PE184086.010	LB231625	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW07-UP	PE184086.011	LB231625	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW07-DOWN	PE184086.012	LB231627	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW03-UP	PE184086.013	LB231625	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025
SW03-DOWN	PE184086.014	LB231627	03 Jul 2025	04 Jul 2025	10 Jul 2025	09 Jul 2025	10 Jul 2025	09 Jul 2025

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-ENVJAN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW01-DOWN	PE184086.002	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW02-UP	PE184086.003	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW02-DOWN	PE184086.004	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW04-UP	PE184086.005	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW04-DOWN	PE184086.006	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW05-UP	PE184086.007	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW05-DOWN	PE184086.008	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW06-UP	PE184086.009	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW06-DOWN	PE184086.010	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025



HOLDING TIME SUMMARY

PE184086 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 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.

Total Phosphorus by Kjeldahl Digestion DA in Water (continued)

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW07-UP	PE184086.011	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW07-DOWN	PE184086.012	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW03-UP	PE184086.013	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025
SW03-DOWN	PE184086.014	LB231592	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW01-DOWN	PE184086.002	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW02-UP	PE184086.003	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW02-DOWN	PE184086.004	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW04-UP	PE184086.005	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW04-DOWN	PE184086.006	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW05-UP	PE184086.007	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW05-DOWN	PE184086.008	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW06-UP	PE184086.009	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW06-DOWN	PE184086.010	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW07-UP	PE184086.011	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW07-DOWN	PE184086.012	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW03-UP	PE184086.013	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW03-DOWN	PE184086.014	LB231615	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW01-UP	PE184086.001	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW01-DOWN	PE184086.002	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW02-UP	PE184086.003	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW02-DOWN	PE184086.004	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW04-UP	PE184086.005	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW04-DOWN	PE184086.006	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW05-UP	PE184086.007	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW05-DOWN	PE184086.008	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW06-UP	PE184086.009	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW06-DOWN	PE184086.010	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW07-UP	PE184086.011	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW07-DOWN	PE184086.012	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW03-UP	PE184086.013	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
SW03-DOWN	PE184086.014	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025



SURROGATES

PE184086 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	109
	SW01-DOWN	PE184086.002	%	10 - 150%	117
	SW02-UP	PE184086.003	%	10 - 150%	93
	SW02-DOWN	PE184086.004	%	10 - 150%	94
	SW04-UP	PE184086.005	%	10 - 150%	94
	SW04-DOWN	PE184086.006	%	10 - 150%	106
	SW05-UP	PE184086.007	%	10 - 150%	108
	SW05-DOWN	PE184086.008	%	10 - 150%	104
	SW06-UP	PE184086.009	%	10 - 150%	94
	SW06-DOWN	PE184086.010	%	10 - 150%	105
	SW07-UP	PE184086.011	%	10 - 150%	104
	SW07-DOWN	PE184086.012	%	10 - 150%	103
	SW03-UP	PE184086.013	%	10 - 150%	68
	SW03-DOWN	PE184086.014	%	10 - 150%	52
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	87
	SW01-DOWN	PE184086.002	%	10 - 150%	92
	SW02-UP	PE184086.003	%	10 - 150%	78
	SW02-DOWN	PE184086.004	%	10 - 150%	70
	SW04-UP	PE184086.005	%	10 - 150%	92
	SW04-DOWN	PE184086.006	%	10 - 150%	102
	SW05-UP	PE184086.007	%	10 - 150%	80
	SW05-DOWN	PE184086.008	%	10 - 150%	78
	SW06-UP	PE184086.009	%	10 - 150%	98
	SW06-DOWN	PE184086.010	%	10 - 150%	79
	SW07-UP	PE184086.011	%	10 - 150%	101
	SW07-DOWN	PE184086.012	%	10 - 150%	84
	SW03-UP	PE184086.013	%	10 - 150%	95
	SW03-DOWN	PE184086.014	%	10 - 150%	97
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	65
	SW01-DOWN	PE184086.002	%	10 - 150%	70
	SW02-UP	PE184086.003	%	10 - 150%	59
	SW02-DOWN	PE184086.004	%	10 - 150%	58
	SW04-UP	PE184086.005	%	10 - 150%	72
	SW04-DOWN	PE184086.006	%	10 - 150%	82
	SW05-UP	PE184086.007	%	10 - 150%	71
	SW05-DOWN	PE184086.008	%	10 - 150%	73
	SW06-UP	PE184086.009	%	10 - 150%	73
	SW06-DOWN	PE184086.010	%	10 - 150%	60
	SW07-UP	PE184086.011	%	10 - 150%	75
	SW07-DOWN	PE184086.012	%	10 - 150%	57
	SW03-UP	PE184086.013	%	10 - 150%	76
	SW03-DOWN	PE184086.014	%	10 - 150%	73
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	61
	SW01-DOWN	PE184086.002	%	10 - 150%	67
	SW02-UP	PE184086.003	%	10 - 150%	57
	SW02-DOWN	PE184086.004	%	10 - 150%	52
	SW04-UP	PE184086.005	%	10 - 150%	73
	SW04-DOWN	PE184086.006	%	10 - 150%	82
	SW05-UP	PE184086.007	%	10 - 150%	70
	SW05-DOWN	PE184086.008	%	10 - 150%	66
	SW06-UP	PE184086.009	%	10 - 150%	64
	SW06-DOWN	PE184086.010	%	10 - 150%	68
	SW07-UP	PE184086.011	%	10 - 150%	64
	SW07-DOWN	PE184086.012	%	10 - 150%	52
	SW03-UP	PE184086.013	%	10 - 150%	68
	SW03-DOWN	PE184086.014	%	10 - 150%	75
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	104
	SW01-DOWN	PE184086.002	%	10 - 150%	114
	SW02-UP	PE184086.003	%	10 - 150%	94
	SW02-DOWN	PE184086.004	%	10 - 150%	96
	SW04-UP	PE184086.005	%	10 - 150%	91



SURROGATES

PE184086 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	SW04-DOWN	PE184086.006	%	10 - 150%	90
	SW05-UP	PE184086.007	%	10 - 150%	105
	SW05-DOWN	PE184086.008	%	10 - 150%	98
	SW06-UP	PE184086.009	%	10 - 150%	100
	SW06-DOWN	PE184086.010	%	10 - 150%	110
	SW07-UP	PE184086.011	%	10 - 150%	100
	SW07-DOWN	PE184086.012	%	10 - 150%	96
	SW03-UP	PE184086.013	%	10 - 150%	85
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	SW03-DOWN	PE184086.014	%	10 - 150%	85
	SW01-UP	PE184086.001	%	10 - 150%	112
	SW01-DOWN	PE184086.002	%	10 - 150%	119
	SW02-UP	PE184086.003	%	10 - 150%	73
	SW02-DOWN	PE184086.004	%	10 - 150%	96
	SW04-UP	PE184086.005	%	10 - 150%	91
	SW04-DOWN	PE184086.006	%	10 - 150%	98
	SW05-UP	PE184086.007	%	10 - 150%	99
	SW05-DOWN	PE184086.008	%	10 - 150%	97
	SW06-UP	PE184086.009	%	10 - 150%	91
	SW06-DOWN	PE184086.010	%	10 - 150%	81
	SW07-UP	PE184086.011	%	10 - 150%	98
	SW07-DOWN	PE184086.012	%	10 - 150%	88
	SW03-UP	PE184086.013	%	10 - 150%	40
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	SW03-DOWN	PE184086.014	%	10 - 150%	30
	SW01-UP	PE184086.001	%	10 - 150%	93
	SW01-DOWN	PE184086.002	%	10 - 150%	99
	SW02-UP	PE184086.003	%	10 - 150%	84
	SW02-DOWN	PE184086.004	%	10 - 150%	81
	SW04-UP	PE184086.005	%	10 - 150%	94
	SW04-DOWN	PE184086.006	%	10 - 150%	102
	SW05-UP	PE184086.007	%	10 - 150%	86
	SW05-DOWN	PE184086.008	%	10 - 150%	91
	SW06-UP	PE184086.009	%	10 - 150%	102
	SW06-DOWN	PE184086.010	%	10 - 150%	89
	SW07-UP	PE184086.011	%	10 - 150%	102
	SW07-DOWN	PE184086.012	%	10 - 150%	82
	SW03-UP	PE184086.013	%	10 - 150%	94
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	SW03-DOWN	PE184086.014	%	10 - 150%	90
	SW01-UP	PE184086.001	%	10 - 150%	102
	SW01-DOWN	PE184086.002	%	10 - 150%	101
	SW02-UP	PE184086.003	%	10 - 150%	87
	SW02-DOWN	PE184086.004	%	10 - 150%	87
	SW04-UP	PE184086.005	%	10 - 150%	92
	SW04-DOWN	PE184086.006	%	10 - 150%	113
	SW05-UP	PE184086.007	%	10 - 150%	103
	SW05-DOWN	PE184086.008	%	10 - 150%	107
	SW06-UP	PE184086.009	%	10 - 150%	130
	SW06-DOWN	PE184086.010	%	10 - 150%	106
	SW07-UP	PE184086.011	%	10 - 150%	108
	SW07-DOWN	PE184086.012	%	10 - 150%	90
	SW03-UP	PE184086.013	%	10 - 150%	112
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	SW03-DOWN	PE184086.014	%	10 - 150%	90
	SW01-UP	PE184086.001	%	10 - 150%	91
	SW01-DOWN	PE184086.002	%	10 - 150%	99
	SW02-UP	PE184086.003	%	10 - 150%	92
	SW02-DOWN	PE184086.004	%	10 - 150%	100
	SW04-UP	PE184086.005	%	10 - 150%	94
	SW04-DOWN	PE184086.006	%	10 - 150%	97
	SW05-UP	PE184086.007	%	10 - 150%	98
	SW05-DOWN	PE184086.008	%	10 - 150%	103
	SW06-UP	PE184086.009	%	10 - 150%	101
	SW06-DOWN	PE184086.010	%	10 - 150%	101



SURROGATES

PE184086 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	SW07-UP	PE184086.011	%	10 - 150%	101
	SW07-DOWN	PE184086.012	%	10 - 150%	89
	SW03-UP	PE184086.013	%	10 - 150%	92
	SW03-DOWN	PE184086.014	%	10 - 150%	99
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	100
	SW01-DOWN	PE184086.002	%	10 - 150%	99
	SW02-UP	PE184086.003	%	10 - 150%	99
	SW02-DOWN	PE184086.004	%	10 - 150%	102
	SW04-UP	PE184086.005	%	10 - 150%	102
	SW04-DOWN	PE184086.006	%	10 - 150%	103
	SW05-UP	PE184086.007	%	10 - 150%	101
	SW05-DOWN	PE184086.008	%	10 - 150%	98
	SW06-UP	PE184086.009	%	10 - 150%	100
	SW06-DOWN	PE184086.010	%	10 - 150%	102
	SW07-UP	PE184086.011	%	10 - 150%	100
	SW07-DOWN	PE184086.012	%	10 - 150%	102
	SW03-UP	PE184086.013	%	10 - 150%	100
	SW03-DOWN	PE184086.014	%	10 - 150%	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	99
	SW01-DOWN	PE184086.002	%	10 - 150%	102
	SW02-UP	PE184086.003	%	10 - 150%	94
	SW02-DOWN	PE184086.004	%	10 - 150%	101
	SW04-UP	PE184086.005	%	10 - 150%	102
	SW04-DOWN	PE184086.006	%	10 - 150%	104
	SW05-UP	PE184086.007	%	10 - 150%	97
	SW05-DOWN	PE184086.008	%	10 - 150%	103
	SW06-UP	PE184086.009	%	10 - 150%	104
	SW06-DOWN	PE184086.010	%	10 - 150%	104
	SW07-UP	PE184086.011	%	10 - 150%	103
	SW07-DOWN	PE184086.012	%	10 - 150%	98
	SW03-UP	PE184086.013	%	10 - 150%	92
	SW03-DOWN	PE184086.014	%	10 - 150%	103
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	97
	SW01-DOWN	PE184086.002	%	10 - 150%	105
	SW02-UP	PE184086.003	%	10 - 150%	92
	SW02-DOWN	PE184086.004	%	10 - 150%	99
	SW04-UP	PE184086.005	%	10 - 150%	95
	SW04-DOWN	PE184086.006	%	10 - 150%	99
	SW05-UP	PE184086.007	%	10 - 150%	91
	SW05-DOWN	PE184086.008	%	10 - 150%	89
	SW06-UP	PE184086.009	%	10 - 150%	98
	SW06-DOWN	PE184086.010	%	10 - 150%	101
	SW07-UP	PE184086.011	%	10 - 150%	99
	SW07-DOWN	PE184086.012	%	10 - 150%	96
	SW03-UP	PE184086.013	%	10 - 150%	96
	SW03-DOWN	PE184086.014	%	10 - 150%	104
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	96
	SW01-DOWN	PE184086.002	%	10 - 150%	96
	SW02-UP	PE184086.003	%	10 - 150%	97
	SW02-DOWN	PE184086.004	%	10 - 150%	102
	SW04-UP	PE184086.005	%	10 - 150%	95
	SW04-DOWN	PE184086.006	%	10 - 150%	96
	SW05-UP	PE184086.007	%	10 - 150%	146
	SW05-DOWN	PE184086.008	%	10 - 150%	146
	SW06-UP	PE184086.009	%	10 - 150%	97
	SW06-DOWN	PE184086.010	%	10 - 150%	98
	SW07-UP	PE184086.011	%	10 - 150%	97
	SW07-DOWN	PE184086.012	%	10 - 150%	99
	SW03-UP	PE184086.013	%	10 - 150%	98
	SW03-DOWN	PE184086.014	%	10 - 150%	95
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	89



SURROGATES

PE184086 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	SW01-DOWN	PE184086.002	%	10 - 150%	91
	SW02-UP	PE184086.003	%	10 - 150%	101
	SW02-DOWN	PE184086.004	%	10 - 150%	92
	SW04-UP	PE184086.005	%	10 - 150%	95
	SW04-DOWN	PE184086.006	%	10 - 150%	83
	SW05-UP	PE184086.007	%	10 - 150%	93
	SW05-DOWN	PE184086.008	%	10 - 150%	127
	SW06-UP	PE184086.009	%	10 - 150%	100
	SW06-DOWN	PE184086.010	%	10 - 150%	121
	SW07-UP	PE184086.011	%	10 - 150%	101
	SW07-DOWN	PE184086.012	%	10 - 150%	97
	SW03-UP	PE184086.013	%	10 - 150%	127
	SW03-DOWN	PE184086.014	%	10 - 150%	97
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	96
	SW01-DOWN	PE184086.002	%	10 - 150%	105
	SW02-UP	PE184086.003	%	10 - 150%	99
	SW02-DOWN	PE184086.004	%	10 - 150%	91
	SW04-UP	PE184086.005	%	10 - 150%	92
	SW04-DOWN	PE184086.006	%	10 - 150%	100
	SW05-UP	PE184086.007	%	10 - 150%	97
	SW05-DOWN	PE184086.008	%	10 - 150%	99
	SW06-UP	PE184086.009	%	10 - 150%	110
	SW06-DOWN	PE184086.010	%	10 - 150%	109
	SW07-UP	PE184086.011	%	10 - 150%	97
	SW07-DOWN	PE184086.012	%	10 - 150%	88
	SW03-UP	PE184086.013	%	10 - 150%	94
	SW03-DOWN	PE184086.014	%	10 - 150%	85
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	86
	SW01-DOWN	PE184086.002	%	10 - 150%	98
	SW02-UP	PE184086.003	%	10 - 150%	133
	SW02-DOWN	PE184086.004	%	10 - 150%	83
	SW04-UP	PE184086.005	%	10 - 150%	121
	SW04-DOWN	PE184086.006	%	10 - 150%	97
	SW05-UP	PE184086.007	%	10 - 150%	109
	SW05-DOWN	PE184086.008	%	10 - 150%	106
	SW06-UP	PE184086.009	%	10 - 150%	112
	SW06-DOWN	PE184086.010	%	10 - 150%	104
	SW07-UP	PE184086.011	%	10 - 150%	93
	SW07-DOWN	PE184086.012	%	10 - 150%	122
	SW03-UP	PE184086.013	%	10 - 150%	85
	SW03-DOWN	PE184086.014	%	10 - 150%	102
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	92
	SW01-DOWN	PE184086.002	%	10 - 150%	93
	SW02-UP	PE184086.003	%	10 - 150%	130
	SW02-DOWN	PE184086.004	%	10 - 150%	83
	SW04-UP	PE184086.005	%	10 - 150%	85
	SW04-DOWN	PE184086.006	%	10 - 150%	92
	SW05-UP	PE184086.007	%	10 - 150%	95
	SW05-DOWN	PE184086.008	%	10 - 150%	104
	SW06-UP	PE184086.009	%	10 - 150%	109
	SW06-DOWN	PE184086.010	%	10 - 150%	114
	SW07-UP	PE184086.011	%	10 - 150%	97
	SW07-DOWN	PE184086.012	%	10 - 150%	106
	SW03-UP	PE184086.013	%	10 - 150%	105
	SW03-DOWN	PE184086.014	%	10 - 150%	110
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	94
	SW01-DOWN	PE184086.002	%	10 - 150%	103
	SW02-UP	PE184086.003	%	10 - 150%	106
	SW02-DOWN	PE184086.004	%	10 - 150%	102
	SW04-UP	PE184086.005	%	10 - 150%	86
	SW04-DOWN	PE184086.006	%	10 - 150%	104



SURROGATES

PE184086 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	SW05-UP	PE184086.007	%	10 - 150%	102
	SW05-DOWN	PE184086.008	%	10 - 150%	94
	SW06-UP	PE184086.009	%	10 - 150%	102
	SW06-DOWN	PE184086.010	%	10 - 150%	96
	SW07-UP	PE184086.011	%	10 - 150%	96
	SW07-DOWN	PE184086.012	%	10 - 150%	88
	SW03-UP	PE184086.013	%	10 - 150%	105
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	SW03-DOWN	PE184086.014	%	10 - 150%	93
	SW01-UP	PE184086.001	%	10 - 150%	102
	SW01-DOWN	PE184086.002	%	10 - 150%	111
	SW02-UP	PE184086.003	%	10 - 150%	148
	SW02-DOWN	PE184086.004	%	10 - 150%	84
	SW04-UP	PE184086.005	%	10 - 150%	91
	SW04-DOWN	PE184086.006	%	10 - 150%	117
	SW05-UP	PE184086.007	%	10 - 150%	109
	SW05-DOWN	PE184086.008	%	10 - 150%	93
	SW06-UP	PE184086.009	%	10 - 150%	108
	SW06-DOWN	PE184086.010	%	10 - 150%	62
	SW07-UP	PE184086.011	%	10 - 150%	61
	SW07-DOWN	PE184086.012	%	10 - 150%	80
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	SW03-UP	PE184086.013	%	10 - 150%	62
	SW03-DOWN	PE184086.014	%	10 - 150%	40
	SW01-UP	PE184086.001	%	10 - 150%	70
	SW01-DOWN	PE184086.002	%	10 - 150%	90
	SW02-UP	PE184086.003	%	10 - 150%	91
	SW02-DOWN	PE184086.004	%	10 - 150%	60
	SW04-UP	PE184086.005	%	10 - 150%	85
	SW04-DOWN	PE184086.006	%	10 - 150%	80
	SW05-UP	PE184086.007	%	10 - 150%	61
	SW05-DOWN	PE184086.008	%	10 - 150%	79
	SW06-UP	PE184086.009	%	10 - 150%	80
	SW06-DOWN	PE184086.010	%	10 - 150%	83
	SW07-UP	PE184086.011	%	10 - 150%	69
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	SW07-DOWN	PE184086.012	%	10 - 150%	81
	SW03-UP	PE184086.013	%	10 - 150%	65
	SW03-DOWN	PE184086.014	%	10 - 150%	88
	SW01-UP	PE184086.001	%	10 - 150%	78
	SW01-DOWN	PE184086.002	%	10 - 150%	78
	SW02-UP	PE184086.003	%	10 - 150%	77
	SW02-DOWN	PE184086.004	%	10 - 150%	80
	SW04-UP	PE184086.005	%	10 - 150%	82
	SW04-DOWN	PE184086.006	%	10 - 150%	82
	SW05-UP	PE184086.007	%	10 - 150%	53
	SW05-DOWN	PE184086.008	%	10 - 150%	84
	SW06-UP	PE184086.009	%	10 - 150%	84
	SW06-DOWN	PE184086.010	%	10 - 150%	87
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	SW07-UP	PE184086.011	%	10 - 150%	60
	SW07-DOWN	PE184086.012	%	10 - 150%	56
	SW03-UP	PE184086.013	%	10 - 150%	38
	SW03-DOWN	PE184086.014	%	10 - 150%	47
	SW01-UP	PE184086.001	%	10 - 150%	80
	SW01-DOWN	PE184086.002	%	10 - 150%	95
	SW02-UP	PE184086.003	%	10 - 150%	119
	SW02-DOWN	PE184086.004	%	10 - 150%	78
	SW04-UP	PE184086.005	%	10 - 150%	122
	SW04-DOWN	PE184086.006	%	10 - 150%	75
	SW05-UP	PE184086.007	%	10 - 150%	77
	SW05-DOWN	PE184086.008	%	10 - 150%	83
	SW06-UP	PE184086.009	%	10 - 150%	112
	SW06-DOWN	PE184086.010	%	10 - 150%	83
	SW07-UP	PE184086.011	%	10 - 150%	88



SURROGATES

PE184086 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	SW07-DOWN	PE184086.012	%	10 - 150%	101
	SW03-UP	PE184086.013	%	10 - 150%	93
	SW03-DOWN	PE184086.014	%	10 - 150%	104
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	82
	SW01-DOWN	PE184086.002	%	10 - 150%	94
	SW02-UP	PE184086.003	%	10 - 150%	124
	SW02-DOWN	PE184086.004	%	10 - 150%	83
	SW04-UP	PE184086.005	%	10 - 150%	125
	SW04-DOWN	PE184086.006	%	10 - 150%	105
	SW05-UP	PE184086.007	%	10 - 150%	87
	SW05-DOWN	PE184086.008	%	10 - 150%	101
	SW06-UP	PE184086.009	%	10 - 150%	115
	SW06-DOWN	PE184086.010	%	10 - 150%	113
	SW07-UP	PE184086.011	%	10 - 150%	102
	SW07-DOWN	PE184086.012	%	10 - 150%	95
	SW03-UP	PE184086.013	%	10 - 150%	78
	SW03-DOWN	PE184086.014	%	10 - 150%	88
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	SW01-UP	PE184086.001	%	10 - 150%	85
	SW01-DOWN	PE184086.002	%	10 - 150%	99
	SW02-UP	PE184086.003	%	10 - 150%	102
	SW02-DOWN	PE184086.004	%	10 - 150%	78
	SW04-UP	PE184086.005	%	10 - 150%	124
	SW04-DOWN	PE184086.006	%	10 - 150%	86
	SW05-UP	PE184086.007	%	10 - 150%	90
	SW05-DOWN	PE184086.008	%	10 - 150%	102
	SW06-UP	PE184086.009	%	10 - 150%	106
	SW06-DOWN	PE184086.010	%	10 - 150%	97
	SW07-UP	PE184086.011	%	10 - 150%	86
	SW07-DOWN	PE184086.012	%	10 - 150%	104
	SW03-UP	PE184086.013	%	10 - 150%	92
	SW03-DOWN	PE184086.014	%	10 - 150%	96

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	SW01-UP	PE184086.001	%	40 - 130%	74
	SW01-DOWN	PE184086.002	%	40 - 130%	108
	SW02-UP	PE184086.003	%	40 - 130%	82
	SW02-DOWN	PE184086.004	%	40 - 130%	77
	SW04-UP	PE184086.005	%	40 - 130%	92
	SW04-DOWN	PE184086.006	%	40 - 130%	88
	SW05-UP	PE184086.007	%	40 - 130%	97
	SW05-DOWN	PE184086.008	%	40 - 130%	108
	SW06-UP	PE184086.009	%	40 - 130%	102
	SW06-DOWN	PE184086.010	%	40 - 130%	102
	SW07-UP	PE184086.011	%	40 - 130%	84
	SW07-DOWN	PE184086.012	%	40 - 130%	98
	SW03-UP	PE184086.013	%	40 - 130%	78
	SW03-DOWN	PE184086.014	%	40 - 130%	72
2-fluorobiphenyl (Surrogate)	SW01-UP	PE184086.001	%	40 - 130%	78
	SW01-DOWN	PE184086.002	%	40 - 130%	60
	SW02-UP	PE184086.003	%	40 - 130%	64
	SW02-DOWN	PE184086.004	%	40 - 130%	83
	SW04-UP	PE184086.005	%	40 - 130%	66
	SW04-DOWN	PE184086.006	%	40 - 130%	87
	SW05-UP	PE184086.007	%	40 - 130%	89
	SW05-DOWN	PE184086.008	%	40 - 130%	95
	SW06-UP	PE184086.009	%	40 - 130%	92
	SW06-DOWN	PE184086.010	%	40 - 130%	77
	SW07-UP	PE184086.011	%	40 - 130%	66
	SW07-DOWN	PE184086.012	%	40 - 130%	95
	SW03-UP	PE184086.013	%	40 - 130%	70
	SW03-DOWN	PE184086.014	%	40 - 130%	70



SURROGATES

PE184086 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %	
2-fluorobiphenyl (Surrogate)	SW03-DOWN	PE184086.014	%	40 - 130%	97	
	2-fluorophenol (Surrogate)	SW01-UP	PE184086.001	%	40 - 130%	90
		SW01-DOWN	PE184086.002	%	40 - 130%	104
		SW02-UP	PE184086.003	%	40 - 130%	87
		SW02-DOWN	PE184086.004	%	40 - 130%	89
		SW04-UP	PE184086.005	%	40 - 130%	102
		SW04-DOWN	PE184086.006	%	40 - 130%	89
		SW05-UP	PE184086.007	%	40 - 130%	117
		SW05-DOWN	PE184086.008	%	40 - 130%	114
		SW06-UP	PE184086.009	%	40 - 130%	95
		SW06-DOWN	PE184086.010	%	40 - 130%	120
		SW07-UP	PE184086.011	%	40 - 130%	102
		SW07-DOWN	PE184086.012	%	40 - 130%	116
		SW03-UP	PE184086.013	%	40 - 130%	74
SW03-DOWN	PE184086.014	%	40 - 130%	74		
d14-p-terphenyl (Surrogate)	SW01-UP	PE184086.001	%	40 - 130%	84	
	SW01-DOWN	PE184086.002	%	40 - 130%	95	
	SW02-UP	PE184086.003	%	40 - 130%	91	
	SW02-DOWN	PE184086.004	%	40 - 130%	94	
	SW04-UP	PE184086.005	%	40 - 130%	85	
	SW04-DOWN	PE184086.006	%	40 - 130%	90	
	SW05-UP	PE184086.007	%	40 - 130%	87	
	SW05-DOWN	PE184086.008	%	40 - 130%	89	
	SW06-UP	PE184086.009	%	40 - 130%	93	
	SW06-DOWN	PE184086.010	%	40 - 130%	87	
	SW07-UP	PE184086.011	%	40 - 130%	79	
	SW07-DOWN	PE184086.012	%	40 - 130%	90	
	SW03-UP	PE184086.013	%	40 - 130%	86	
	SW03-DOWN	PE184086.014	%	40 - 130%	80	
d5-nitrobenzene (Surrogate)	SW01-UP	PE184086.001	%	40 - 130%	96	
	SW01-DOWN	PE184086.002	%	40 - 130%	108	
	SW02-UP	PE184086.003	%	40 - 130%	108	
	SW02-DOWN	PE184086.004	%	40 - 130%	106	
	SW04-UP	PE184086.005	%	40 - 130%	100	
	SW04-DOWN	PE184086.006	%	40 - 130%	103	
	SW05-UP	PE184086.007	%	40 - 130%	92	
	SW05-DOWN	PE184086.008	%	40 - 130%	99	
	SW06-UP	PE184086.009	%	40 - 130%	89	
	SW06-DOWN	PE184086.010	%	40 - 130%	86	
	SW07-UP	PE184086.011	%	40 - 130%	102	
	SW07-DOWN	PE184086.012	%	40 - 130%	105	
	SW03-UP	PE184086.013	%	40 - 130%	106	
	SW03-DOWN	PE184086.014	%	40 - 130%	98	
d6-phenol (Surrogate)	SW01-UP	PE184086.001	%	40 - 130%	38 ↑	
	SW01-DOWN	PE184086.002	%	40 - 130%	44	
	SW02-UP	PE184086.003	%	40 - 130%	33 ↑	
	SW02-DOWN	PE184086.004	%	40 - 130%	36 ↑	
	SW04-UP	PE184086.005	%	40 - 130%	35 ↑	
	SW04-DOWN	PE184086.006	%	40 - 130%	37 ↑	
	SW05-UP	PE184086.007	%	40 - 130%	55	
	SW05-DOWN	PE184086.008	%	40 - 130%	50	
	SW06-UP	PE184086.009	%	40 - 130%	34 ↑	
	SW06-DOWN	PE184086.010	%	40 - 130%	53	
	SW07-UP	PE184086.011	%	40 - 130%	52	
	SW07-DOWN	PE184086.012	%	40 - 130%	59	
	SW03-UP	PE184086.013	%	40 - 130%	34 ↑	
	SW03-DOWN	PE184086.014	%	40 - 130%	29 ↑	

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units
-----------	-------------	---------------	-------



SURROGATES

PE184086 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	SW01-UP	PE184086.001	%	60 - 130%	103
	SW01-DOWN	PE184086.002	%	60 - 130%	106
	SW02-UP	PE184086.003	%	60 - 130%	106
	SW02-DOWN	PE184086.004	%	60 - 130%	106
	SW04-UP	PE184086.005	%	60 - 130%	106
	SW04-DOWN	PE184086.006	%	60 - 130%	106
	SW05-UP	PE184086.007	%	60 - 130%	108
	SW05-DOWN	PE184086.008	%	60 - 130%	108
	SW06-UP	PE184086.009	%	60 - 130%	106
	SW06-DOWN	PE184086.010	%	60 - 130%	107
	SW07-UP	PE184086.011	%	60 - 130%	123
	SW07-DOWN	PE184086.012	%	60 - 130%	109
	SW03-UP	PE184086.013	%	60 - 130%	109
	SW03-DOWN	PE184086.014	%	60 - 130%	109
Dibromofluoromethane (Surrogate)	SW01-UP	PE184086.001	%	60 - 130%	100
	SW01-DOWN	PE184086.002	%	60 - 130%	102
	SW02-UP	PE184086.003	%	60 - 130%	103
	SW02-DOWN	PE184086.004	%	60 - 130%	103
	SW04-UP	PE184086.005	%	60 - 130%	104
	SW04-DOWN	PE184086.006	%	60 - 130%	104
	SW05-UP	PE184086.007	%	60 - 130%	106
	SW05-DOWN	PE184086.008	%	60 - 130%	106
	SW06-UP	PE184086.009	%	60 - 130%	103
	SW06-DOWN	PE184086.010	%	60 - 130%	105
	SW07-UP	PE184086.011	%	60 - 130%	106
	SW07-DOWN	PE184086.012	%	60 - 130%	106
	SW03-UP	PE184086.013	%	60 - 130%	106
	SW03-DOWN	PE184086.014	%	60 - 130%	105
p_Bromofluorobenzene (Surrogate)	SW01-UP	PE184086.001	%	60 - 130%	93
	SW01-DOWN	PE184086.002	%	60 - 130%	94
	SW02-UP	PE184086.003	%	60 - 130%	93
	SW02-DOWN	PE184086.004	%	60 - 130%	92
	SW04-UP	PE184086.005	%	60 - 130%	92
	SW04-DOWN	PE184086.006	%	60 - 130%	94
	SW05-UP	PE184086.007	%	60 - 130%	94
	SW05-DOWN	PE184086.008	%	60 - 130%	93
	SW06-UP	PE184086.009	%	60 - 130%	92
	SW06-DOWN	PE184086.010	%	60 - 130%	93
	SW07-UP	PE184086.011	%	60 - 130%	94
	SW07-DOWN	PE184086.012	%	60 - 130%	93
	SW03-UP	PE184086.013	%	60 - 130%	92
	SW03-DOWN	PE184086.014	%	60 - 130%	92
Toluene-d8 (surrogate)	SW01-UP	PE184086.001	%	60 - 130%	103
	SW01-DOWN	PE184086.002	%	60 - 130%	103
	SW02-UP	PE184086.003	%	60 - 130%	102
	SW02-DOWN	PE184086.004	%	60 - 130%	101
	SW04-UP	PE184086.005	%	60 - 130%	103
	SW04-DOWN	PE184086.006	%	60 - 130%	104
	SW05-UP	PE184086.007	%	60 - 130%	103
	SW05-DOWN	PE184086.008	%	60 - 130%	103
	SW06-UP	PE184086.009	%	60 - 130%	103
	SW06-DOWN	PE184086.010	%	60 - 130%	104
	SW07-UP	PE184086.011	%	60 - 130%	103
	SW07-DOWN	PE184086.012	%	60 - 130%	103
	SW03-UP	PE184086.013	%	60 - 130%	103
	SW03-DOWN	PE184086.014	%	60 - 130%	103



METHOD BLANKS

PE184086 R0

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.

Acidity and Free CO2

Method: ME-(AU)-[ENV]AN140

Sample Number	Parameter	Units	LOR	Result
LB231609.001	Acidity to pH 8.3	mg CaCO3/L	5	<5

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB231599.001	Total Alkalinity as CaCO3	mg/L	5	<5
LB231601.001	Total Alkalinity as CaCO3	mg/L	5	<5

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Number	Parameter	Units	LOR	Result
LB231576.001	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	<0.05

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result
LB231596.001	Chloride, Cl	mg/L	1	<1
LB231596.025	Chloride, Cl	mg/L	1	<1

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result
LB231605.001	Conductivity @ 25 C	µS/cm	2	<2
LB231607.001	Conductivity @ 25 C	µS/cm	2	<2

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Number	Parameter	Units	LOR	Result
LB231606.001	Dissolved Oxygen**	mg/L	0.5	<0.5

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result
LB231563.001	Filterable Reactive Phosphorus as P	mg/L	0.002	<0.002

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB231658.001	Mercury	mg/L	0.00005	<0.00005

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Number	Parameter	Units	LOR	Result
LB231576.001	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05
	Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05
LB231576.027	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05
	Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result
LB231605.001	pH**	pH Units	-	5.6
LB231607.001	pH**	pH Units	-	6.3

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR	Result
LB231596.001	Sulfate, SO ₄	mg/L	1	<1
LB231596.025	Sulfate, SO ₄	mg/L	1	<1



METHOD BLANKS

PE184086 R0

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.

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result
LB231593.001	Total Kjeldahl Nitrogen	mg/L	0.05	<0.05

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result
LB231625.001	Total Dissolved Solids Dried at 175-185°C	mg/L	10	<10
LB231627.001	Total Dissolved Solids Dried at 175-185°C	mg/L	10	<10

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result
LB231592.001	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB231615.001	Aluminium	µg/L	5	<5
	Arsenic	µg/L	0.5	<0.5
	Barium	µg/L	0.2	<0.2
	Beryllium	µg/L	0.1	<0.1
	Boron	µg/L	5	<5
	Cadmium	µg/L	0.05	<0.05
	Chromium	µg/L	0.5	<0.5
	Cobalt	µg/L	0.5	<0.5
	Copper	µg/L	0.5	<0.5
	Iron	µg/L	5	<5
	Lead	µg/L	0.5	<0.5
	Manganese	µg/L	1	<1
	Nickel	µg/L	1	<1
	Selenium	µg/L	1	<1
	Vanadium	µg/L	0.5	<0.5
	Zinc	µg/L	1	<1

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB231614.001	Total Aluminium	µg/L	5	<5

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.

Acidity and Free CO2

Method: ME-(AU)-[ENV]JAN140

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.007	LB231609.013	Acidity to pH 8.3	mg CaCO3/L	5	8	8	76	2
PE184086.014	LB231609.021	Acidity to pH 8.3	mg CaCO3/L	5	<5	<5	200	0

Alkalinity

Method: ME-(AU)-[ENV]JAN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.001	LB231599.009	Total Alkalinity as CaCO3	mg/L	5	56	55	24	1
PE184086.011	LB231601.014	Total Alkalinity as CaCO3	mg/L	5	32	32	31	1
PE184099.007	LB231601.028	Total Alkalinity as CaCO3	mg/L	5	40	44	27	11

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]JAN261/AN262

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231576.014	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	0.10	0.10	66	5
PE184104.004	LB231576.025	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	<0.05	<0.05	200	0

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]JAN274

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.009	LB231596.028	Chloride, Cl	mg/L	1	60	62	17	3

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]JAN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE182379.001	LB231605.014	Conductivity @ 25 C	µS/cm	2	1700	1700	15	0
PE184086.001	LB231605.026	Conductivity @ 25 C	µS/cm	2	240	240	16	1
PE184086.011	LB231607.014	Conductivity @ 25 C	µS/cm	2	210	210	16	0
PE184099.007	LB231607.028	Conductivity @ 25 C	µS/cm	2	460	460	15	0

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]JAN176

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231606.013	Dissolved Oxygen**	mg/L	0.5	7.0	7.0	22	0
PE184125.004	LB231606.027	Dissolved Oxygen**	mg/L	0.5	3.6	3.6	29	0

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]JAN278

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.010	LB231563.025	Filterable Reactive Phosphorus as P	mg/L	0.002	0.003	0.004	152	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]JAN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.006	LB231658.014	Mercury	µg/L	0.00005	<0.00005	<0.00005	197	0
PE184086.014	LB231658.024	Mercury	µg/L	0.00005	<0.00005	<0.00005	197	0

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]JAN258

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231576.014	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	200	0
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.19	0.19	41	2
PE184104.004	LB231576.029	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	200	0
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.20	0.20	40	1

pH in water

Method: ME-(AU)-[ENV]JAN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE182379.001	LB231605.013	pH**	pH Units	-	8.1	8.1	16	0
PE184086.001	LB231605.025	pH**	pH Units	-	7.7	7.8	16	1
PE184086.011	LB231607.013	pH**	pH Units	-	7.3	7.3	16	1
PE184099.007	LB231607.026	pH**	pH Units	-	7.3	7.3	16	0

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]JAN240

Original	Duplicate	Parameter	Units	LOR
----------	-----------	-----------	-------	-----



DUPLICATES

PE184086 R0

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.

Redox Potential (Eh) in water (continued)

Method: ME-(AU)-[ENV]AN240

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231604.013	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	362	362	15	0
PE184086.014	LB231604.021	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	346	348	15	0

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE181631.001	LB231596.041	Sulfate, SO4	mg/L	1	150	150	16	3
PE182379.001	LB231596.043	Sulfate, SO4	mg/L	1	460	470	15	2
PE184057.001	LB231596.014	Sulfate, SO4	mg/L	1	410	400	15	3

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.010	LB231593.013	Total Kjeldahl Nitrogen	mg/L	0.05	0.99	0.91	20	9
PE184104.004	LB231593.024	Total Kjeldahl Nitrogen	mg/L	0.05	1.0	0.95	20	7
PE184125.003	LB231593.031	Total Kjeldahl Nitrogen	mg/L	0.05	0.15	0.17	47	11

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183564A.001	LB231625.014	Total Dissolved Solids Dried at 175-185°C	mg/L	10	360	360	18	2
PE184085.001	LB231627.015	Total Dissolved Solids Dried at 175-185°C	mg/L	10	590	590	17	0
PE184086.008	LB231625.021	Total Dissolved Solids Dried at 175-185°C	mg/L	10	370	360	18	2
PE184194.001	LB231627.026	Total Dissolved Solids Dried at 175-185°C	mg/L	10	430	430	17	2

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.010	LB231592.013	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.12	0.11	33	6
PE184104.004	LB231592.024	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.13	0.14	30	7
PE184125.003	LB231592.031	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.03	0.05	63	38

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231615.014	Aluminium	µg/L	5	260	250	17	2
		Arsenic	µg/L	0.5	0.9	0.9	72	2
		Barium	µg/L	0.2	34	34	16	0
		Beryllium	µg/L	0.1	<0.1	<0.1	200	0
		Boron	µg/L	5	43	43	27	1
		Cadmium	µg/L	0.05	0.07	0.06	93	4
		Chromium	µg/L	0.5	0.9	0.9	72	2
		Cobalt	µg/L	0.5	1.1	1.1	60	1
		Copper	µg/L	0.5	3.6	3.6	29	2
		Iron	µg/L	5	2800	2800	15	0
		Lead	µg/L	0.5	<0.5	<0.5	191	0
		Manganese	µg/L	1	69	68	16	1
		Nickel	µg/L	1	1	1	91	3
		Selenium	µg/L	1	<1	<1	200	0
		Vanadium	µg/L	0.5	1.5	1.5	49	1
PE184086.014	LB231615.021	Zinc	µg/L	1	16	16	21	2
		Aluminium	µg/L	5	44	41	27	5
		Arsenic	µg/L	0.5	<0.5	<0.5	200	0
		Barium	µg/L	0.2	13	14	16	4
		Beryllium	µg/L	0.1	<0.1	<0.1	200	0
		Boron	µg/L	5	21	20	39	5
		Cadmium	µg/L	0.05	<0.05	<0.05	200	0
		Chromium	µg/L	0.5	<0.5	<0.5	200	0
		Cobalt	µg/L	0.5	<0.5	<0.5	200	0
		Copper	µg/L	0.5	1.0	0.9	67	5
		Iron	µg/L	5	81	77	21	5
		Lead	µg/L	0.5	<0.5	<0.5	200	0
		Manganese	µg/L	1	2	2	67	8
		Nickel	µg/L	1	<1	<1	200	0
		Selenium	µg/L	1	<1	<1	200	0
		Vanadium	µg/L	0.5	1.6	1.7	45	4



DUPLICATES

PE184086 R0

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.

Trace Metals (Dissolved) in Water by ICPMS TQe (continued)

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.014	LB231615.021	Zinc	µg/L	1	2	1	87	34

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231614.014	Total Aluminium	µg/L	5	300	330	17	8
		Total Iron	µg/L	5	3600	3600	15	2
PE184125.004	LB231614.026	Total Aluminium	µg/L	5	650	650	16	1
		Total Iron	µg/L	5	6600	6600	15	0



LABORATORY CONTROL SAMPLES

PE184086 R0

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.

Acidity and Free CO₂

Method: ME-(AU)-[ENV]AN140

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231609.002	Acidity to pH 8.3	mg CaCO ₃ /L	5	260	250	85 - 115	104

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231599.002	Total Alkalinity as CaCO ₃	mg/L	5	230	229	85 - 115	100
LB231601.002	Total Alkalinity as CaCO ₃	mg/L	5	220	229	85 - 115	98

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231576.002	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	4.1	4	85 - 115	102

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231596.002	Chloride, Cl	mg/L	1	20	20	85 - 115	99
LB231596.026	Chloride, Cl	mg/L	1	20	20	85 - 115	99

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231605.002	Conductivity @ 25 C	µS/cm	2	310	303	90 - 110	101
LB231605.003	Conductivity @ 25 C	µS/cm	2	1000	1015	90 - 110	100
LB231607.002	Conductivity @ 25 C	µS/cm	2	310	303	90 - 110	101
LB231607.003	Conductivity @ 25 C	µS/cm	2	1000	1015	90 - 110	100

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231606.002	Dissolved Oxygen**	mg/L	0.5	9.8	8.5	88 - 118	115

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231563.002	Filterable Reactive Phosphorus as P	mg/L	0.002	0.052	0.05	80 - 120	104

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231658.002	Mercury	mg/L	0.00005	0.0028	0.0025	80 - 120	111

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231576.002	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.8	4	85 - 115	94
LB231576.028	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.7	4	85 - 115	94

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231605.002	pH**	pH Units	-	7.4	7.4	98 - 102	100
LB231607.002	pH**	pH Units	-	7.4	7.4	98 - 102	100

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231604.001	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	448	428	90 - 110	105



LABORATORY CONTROL SAMPLES

PE184086 R0

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.

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231596.002	Sulfate, SO4	mg/L	1	10	10	80 - 120	98
LB231596.027	Sulfate, SO4	mg/L	1	9	10	80 - 120	93

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231593.002	Total Kjeldahl Nitrogen	mg/L	0.05	1.0	1	80 - 120	101

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231625.002	Total Dissolved Solids Dried at 175-185°C	mg/L	10	290	291	85 - 115	101
LB231627.002	Total Dissolved Solids Dried at 175-185°C	mg/L	10	300	291	85 - 115	102

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231592.002	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.48	0.5	80 - 120	95

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231615.002	Aluminium	µg/L	5	10	10	80 - 120	102
	Arsenic	µg/L	0.5	10	10	80 - 120	101
	Barium	µg/L	0.2	11	10	80 - 120	106
	Beryllium	µg/L	0.1	10	10	80 - 120	103
	Boron	µg/L	5	11	10	80 - 120	110
	Cadmium	µg/L	0.05	10	10	80 - 120	103
	Chromium	µg/L	0.5	11	10	80 - 120	106
	Cobalt	µg/L	0.5	11	10	80 - 120	105
	Copper	µg/L	0.5	10	10	80 - 120	105
	Iron	µg/L	5	12	10	80 - 120	119
	Lead	µg/L	0.5	10	10	80 - 120	104
	Manganese	µg/L	1	10	10	80 - 120	103
	Nickel	µg/L	1	11	10	80 - 120	113
	Selenium	µg/L	1	10	10	80 - 120	102
	Vanadium	µg/L	0.5	10	10	80 - 120	103
	Zinc	µg/L	1	12	10	80 - 120	118

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231614.002	Total Aluminium	µg/L	5	10	10	80 - 120	103

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.

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184086.001	LB231576.006	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	0.83	<0.05	0.8	101

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184008.001	LB231596.004	Chloride, Cl	mg/L	1	120	22.266	100	94

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.003	LB231563.004	Filterable Reactive Phosphorus as P	mg/L	0.002	0.054	0.002	0.05	105

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184093.001	LB231658.004	Mercury	mg/L	0.00005	0.0023	<0.00005	0.0025	115

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]AN258

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184086.001	LB231576.006	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.8	<0.05	4	94
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05	0.36	-	-

Sulfate in water

Method: ME-(AU)-[ENV]AN275

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE181631.001	LB231596.041	Sulfate, SO ₄	mg/L	1	250	150	100	100
PE184008.001	LB231596.004	Sulfate, SO ₄	mg/L	1	100	7.77188	100	97

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE183502B.001	LB231625.004	Total Dissolved Solids Dried at 175-185°C	mg/L	10	3600	2600	1000	97
PE184086.007	LB231627.004	Total Dissolved Solids Dried at 175-185°C	mg/L	10	1600	520	1000	104

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184085.001	LB231615.004	Aluminium	µg/L	5	940	820	10	1232 ⑤
		Arsenic	µg/L	0.5	11	<0.5	10	103
		Barium	µg/L	0.2	180	170	10	75 ⑤
		Beryllium	µg/L	0.1	9.5	0.1	10	94
		Boron	µg/L	5	36	26	10	94
		Cadmium	µg/L	0.05	10	0.10	10	100
		Chromium	µg/L	0.5	14	3.0	10	109
		Cobalt	µg/L	0.5	14	5.0	10	95
		Copper	µg/L	0.5	13	3.4	10	94
		Iron	µg/L	5	2200	2300	10	-648 ⑤
		Lead	µg/L	0.5	12	2.2	10	98
		Manganese	µg/L	1	790	830	10	-384 ⑤
		Nickel	µg/L	1	14	3	10	109
		Selenium	µg/L	1	10	<1	10	103
		Vanadium	µg/L	0.5	17	6.0	10	111
		Zinc	µg/L	1	15	6	10	97

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR
-----------	---------------	-----------	-------	-----



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.

Trace Metals (Total) in Water by ICPMS TQe (continued)

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184085.001	LB231614.004	Total Aluminium	µg/L	5	1900	1900	10	179 ⓘ
		Total Iron	µg/L	5	2400	2600	-	-



MATRIX SPIKE DUPLICATES

PE184086 R0

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.

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-ENVJAN113

QC Sample	Sample Number	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183502B.00	LB231625.005	Total Dissolved Solids Dried at 175-185°C	mg/L	10	3600	3600	15	0
PE184086.007	LB231627.005	Total Dissolved Solids Dried at 175-185°C	mg/L	10	1600	1500	16	5



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 Low surrogate recovery due to the sample emulsifying during extraction.
- † Refer to relevant report comments for further information.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.



CHAIN OF CUSTODY RECORD										Page 2 of 4								
Company Name : Western Environmental Pty Ltd WA					Project Number / Purchase Order : P25.045													
Office Address : Unit 5, 162 Colin St, West Perth WA 6005		Contact Name : Filip Magnusson		Project Manager: Matthew Trenorden		Quote ID :												
Laboratory Address : SGS Australia Pty Ltd 28 Reid Road Perth Airport, WA, 6105 Contact: Ros Ma, Phone: (08) 9373 3500, 93733531 Email: ros.ma@sgs.com, AU.SampleReceipt.Perth@sgs.com		Email for results: filip.m@westenv.com.au		CC1: matt.t@westenv.com.au CC2: zandile.n@westenv.com.au		esdat@westenv.com.au												
Analytes										Special Directions & Comments :								
										Please forward Triplicate samples (TRIPS) to ALS Perth.								
										Container								
										PFAS Jar Glass Jar 125 ml Orange Plastic 100 ml Red Plastic 7 x Vials Amber glass PFAS Bottle 1L Plastic								
#	Sample ID	Type	Sample Date	Matrix	Total PFAS Full Suite, compliant with 'NEMP' freshwater 99% species protection levels (low level)	TRH/ BTEXN	DWER ASS suite (nutrients, metals and ASS parameters), anions/cations	PAH and VOCs										
1	SW01-UP	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
2	SW01-DOWN	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
3	SW02-UP	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
4	SW02-DOWN	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
5	SW04-UP	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
6	SW04-DOWN	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
7	SW05-UP	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
8	SW05-DOWN	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
9	SW06-UP	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
10	SW06-DOWN	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
11	SW07-UP	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
12	SW07-DOWN	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
13	SW03-UP	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1
14	SW03-DOWN	Normal	3/07/2025	Surfacewater	X	X	X	X							1	2	1	1

Relinquished By:	Filip Magnusson	Received By:		Turn around Time :		Method Of Shipment :	
Date & Time:	3/07/2025	Date & Time :		Comments :		Hand Delivered	
Signature:		Signature:					
		Report Number :					



REGISTRATION DETAILS Bottle Map

Doc. No. PF-AU-ENVLTS-PAP-QU101
Rev. No. 8.0 DRAFT
Date 08/03/2022

Page

1 of 1

Sample Numbers	1L	500mL	250mL	125mL	125mL UF/F	1L	500mL	100mL	40mL	40mL	250mL	500mL	500mL	250mL	125mL	1L	250mL	125mL	Ziplock Bag/ Other
	Plastic	Plastic	Plastic	Plastic	Plastic	Amber	Amber	Amber	Glass Vial	Glass Vial	Plastic	Plastic	Amber	Plastic	Plastic	Plastic	Glass Jar	Glass Jar	
	Green	Green	Green	Green	Red	Green	Green	Green	VOC	HAA	Purple	Blue	Orange	Orange	Brown	Yellow			60mL PFAS
1	1				11			1	11					1					1
2	1				11			1	11					1					1
3	1				11			1	11					1					1
4	1				11			1	11					1					1
5	1				11			1	11					1					1
6	1				11			1	11					1					1
7	1				11			1	11					1					1
8	1				11			1	11					1					1
9	1				11			1	11					1					1
10	1				11			1	11					1					1
11	1				11			1	11					1					1
12	1				11			1	11					1					1

Registration comments by local team (For GBS):
3 / 7 / 2025
5:00
COC RECEIVED 4/7/2025
8:00am

Pre-registration/ unpacking comments for local team:
MARK DO ON BOTTLE
SAMPLE 7 AND 8, RECEIVED WITH HEAD SPACE
☐ Green dot on metal bottle

Job Number: PE 184086
of Eskies: 4
Temp (°C):
☐ IB:
☐ ICE:
☒ None: 17.4 - 16.9
Tray Numbers:
W-87-88 SHT
MF-91
MA-44 CH

Is this a Boomerang Esky? Y or N
Boomerang Due Date:
Pre-registered By: PR
Unpacked By: EA

Page of

[illegible]

CLIENT DETAILS

Contact SGS Environmental Perth
 Client SGS I&E EHS PERTH AIRPORT
 Address 28 Reid Road
 Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
 Facsimile +61 (0)8 9373 3556
 Email au.environmental.subcon@sgs.com

Project **P25.045**
 Order Number **PE184086**
 Samples 14

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 **ME373576 R0**
 Date Received 08 Jul 2025
 Date Reported 11 Jul 2025

COMMENTS

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

8270D: Majority of surrogate recoveries within acceptance criteria.

SIGNATORIES



Adam ATKINSON
 Australian Chemistry Manager



Nicholas HORA
 Senior Laboratory Technician



Susan WAN
 Senior Chemist



ANALYTICAL REPORT

ME373576 R0

			Sample Number	ME373576.001	ME373576.002	ME373576.003	ME373576.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184086.001	PE184086.002	PE184086.003	PE184086.004
Parameter	Units	LOR					

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373576 R0

Parameter	Units	LOR	Sample Number	ME373576.001	ME373576.002	ME373576.003	ME373576.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184086.001	PE184086.002	PE184086.003	PE184086.004

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	103	102	101
1,2-Dichloroethane_D4 (Surrogate)	%	-	103	106	106	106
Dibromofluoromethane (Surrogate)	%	-	100	102	103	103
p_Bromofluorobenzene (Surrogate)	%	-	93	94	93	92

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 8/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 9/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
d14-p-terphenyl (Surrogate)	%	0.001	84	95	91	94
d5-nitrobenzene (Surrogate)	%	0.001	96	108	108	106
d6-phenol (Surrogate)	%	0.001	38	44	33	36
2-fluorobiphenyl (Surrogate)	%	0.001	78	60	64	83
2,4,6-tribromophenol (Surrogate)	%	0.001	74	108	82	77
2-fluorophenol (Surrogate)	%	0.001	90	104	87	89

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0023	0.0023	0.0032	0.0039
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0019	0.0023	0.0043	0.0049
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0007	0.0007	0.0015	0.0018
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0006	0.0003	0.0005	0.0010
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373576 R0

Parameter	Units	LOR	Sample Number	ME373576.001	ME373576.002	ME373576.003	ME373576.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184086.001	PE184086.002	PE184086.003	PE184086.004

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025 (continued)

Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0005	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	0.0005	<0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060	0.0096	0.012
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	99	99	102
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	96	96	97	102
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	97	105	92	99
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	99	102	94	101
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	91	99	92	100
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	94	103	106	102
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	89	91	101	92
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	96	105	99	91
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	104	114	94	96
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	109	117	93	94
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	112	119	73	96
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	93	99	84	81
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	102	101	87	87
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	86	98	133	83
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	87	92	78	70
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	65	70	59	58
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	61	67	57	52
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	92	93	130	83
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	102	111	148	84
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	78	78	77	80
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	82	94	124	83
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	85	99	102	78
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	70	90	91	60
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	80	95	119	78

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands



ANALYTICAL REPORT

ME373576 R0

			Sample Number	ME373576.001	ME373576.002	ME373576.003	ME373576.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184086.001	PE184086.002	PE184086.003	PE184086.004
Parameter	Units	LOR					

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025 (continued)

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

VPH in Water MA-30 Method: MA30-VPH Tested: 8/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01



ANALYTICAL REPORT

ME373576 R0

Parameter	Units	LOR	Sample Number	ME373576.005	ME373576.006	ME373576.007	ME373576.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184086.005	PE184086.006	PE184086.007	PE184086.008

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373576 R0

Parameter	Units	LOR	Sample Number	ME373576.005	ME373576.006	ME373576.007	ME373576.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184086.005	PE184086.006	PE184086.007	PE184086.008

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	104	103	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	106	106	108	108
Dibromofluoromethane (Surrogate)	%	-	104	104	106	106
p_Bromofluorobenzene (Surrogate)	%	-	92	94	94	93

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 8/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 9/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
d14-p-terphenyl (Surrogate)	%	0.001	85	90	87	89
d5-nitrobenzene (Surrogate)	%	0.001	100	103	92	99
d6-phenol (Surrogate)	%	0.001	35	37	55	50
2-fluorobiphenyl (Surrogate)	%	0.001	66	87	89	95
2,4,6-tribromophenol (Surrogate)	%	0.001	92	88	97	108
2-fluorophenol (Surrogate)	%	0.001	102	89	117	114

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0039	0.0040	0.0099	0.0081
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	0.0060	0.0081
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0005	0.0010	0.0044	0.0043
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	0.0006	0.0010
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373576 R0

Parameter	Units	LOR
-----------	-------	-----

Sample Number	ME373576.005	ME373576.006	ME373576.007	ME373576.008
Sample Matrix	Water	Water	Water	Water
Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
Sample Name	PE184086.005	PE184086.006	PE184086.007	PE184086.008

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025 (continued)

Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0028	0.0017	0.0010	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.0009	0.0012	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	0.0037	0.0029	0.0010	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	0.0082	0.0079	0.022	0.022
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	102	103	101	98
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	95	96	146	146
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	95	99	91	89
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	102	104	97	103
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	94	97	98	103
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	86	104	102	94
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	95	83	93	127
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	92	100	97	99
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	91	90	105	98
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	94	106	108	104
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	91	98	99	97
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	94	102	86	91
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	92	113	103	107
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	121	97	109	106
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	92	102	80	78
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	72	82	71	73
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	73	82	70	66
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	85	92	95	104
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	91	117	109	93
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	82	82	53	84
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	125	105	87	101
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	124	86	90	102
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	85	80	61	79
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	122	75	77	83

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands



ANALYTICAL REPORT

ME373576 R0

			Sample Number	ME373576.005	ME373576.006	ME373576.007	ME373576.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184086.005	PE184086.006	PE184086.007	PE184086.008
Parameter	Units	LOR					

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025 (continued)

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

VPH in Water MA-30 Method: MA30-VPH Tested: 8/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01



ANALYTICAL REPORT

ME373576 R0

			Sample Number	ME373576.009	ME373576.010	ME373576.011	ME373576.012
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184086.009	PE184086.010	PE184086.011	PE184086.012
Parameter	Units	LOR					

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373576 R0

Parameter	Units	LOR	Sample Number	ME373576.009	ME373576.010	ME373576.011	ME373576.012
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184086.009	PE184086.010	PE184086.011	PE184086.012

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	104	103	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	106	107	123	109
Dibromofluoromethane (Surrogate)	%	-	103	105	106	106
p_Bromofluorobenzene (Surrogate)	%	-	92	93	94	93

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 8/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 9/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
d14-p-terphenyl (Surrogate)	%	0.001	93	87	79	90
d5-nitrobenzene (Surrogate)	%	0.001	89	86	102	105
d6-phenol (Surrogate)	%	0.001	34	53	52	59
2-fluorobiphenyl (Surrogate)	%	0.001	92	77	66	95
2,4,6-tribromophenol (Surrogate)	%	0.001	102	102	84	98
2-fluorophenol (Surrogate)	%	0.001	95	120	102	116

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0015	0.0007	0.0023	0.0025
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005	<0.0005	0.0029	0.0026
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	0.0011	0.0013
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	0.0014	0.0017
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373576 R0

Parameter	Units	LOR
-----------	-------	-----

Sample Number	ME373576.009	ME373576.010	ME373576.011	ME373576.012
Sample Matrix	Water	Water	Water	Water
Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
Sample Name	PE184086.009	PE184086.010	PE184086.011	PE184086.012

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025 (continued)

Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002	0.0029	0.0038
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	0.0054	0.011
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002	0.0084	0.015
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060	0.016	0.023
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	102	100	102
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	97	98	97	99
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	98	101	99	96
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	104	104	103	98
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	101	101	101	89
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	102	96	96	88
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	100	121	101	97
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	110	109	97	88
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	100	110	100	96
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	94	105	104	103
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	91	81	98	88
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	102	89	102	82
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	130	106	108	90
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	112	104	93	122
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	98	79	101	84
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	73	60	75	57
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	64	68	64	52
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	109	114	97	106
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	108	62	61	80
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	84	87	60	56
(D7-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	115	113	102	95
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	106	97	86	104
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	80	83	69	81
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	112	83	88	101

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands



ANALYTICAL REPORT

ME373576 R0

		Sample Number	ME373576.009	ME373576.010	ME373576.011	ME373576.012
		Sample Matrix	Water	Water	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
		Sample Name	PE184086.009	PE184086.010	PE184086.011	PE184086.012
Parameter	Units	LOR				

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025 (continued)

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

VPH in Water MA-30 Method: MA30-VPH Tested: 8/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01



ANALYTICAL REPORT

ME373576 R0

		Sample Number	ME373576.013	ME373576.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184086.013	PE184086.014
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025

Benzene	mg/L	0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373576 R0

		Sample Number	ME373576.013	ME373576.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184086.013	PE184086.014
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	109	109
Dibromofluoromethane (Surrogate)	%	-	106	105
p_Bromofluorobenzene (Surrogate)	%	-	92	92

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 8/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01



ANALYTICAL REPORT

ME373576 R0

		Sample Number	ME373576.013	ME373576.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184086.013	PE184086.014
Parameter	Units	LOR		

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 9/7/2025

Acenaphthene	µg/L	1	<1	<1
Acenaphthylene	µg/L	1	<1	<1
Anthracene	µg/L	1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2
Chrysene	µg/L	1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1
Fluoranthene	µg/L	1	<1	<1
Fluorene	µg/L	1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1
Naphthalene	µg/L	1	<1	<1
Phenanthrene	µg/L	1	<1	<1
Pyrene	µg/L	1	<1	<1
d14-p-terphenyl (Surrogate)	%	0.001	86	80
d5-nitrobenzene (Surrogate)	%	0.001	106	98
d6-phenol (Surrogate)	%	0.001	34	29
2-fluorobiphenyl (Surrogate)	%	0.001	70	97
2,4,6-tribromophenol (Surrogate)	%	0.001	78	72
2-fluorophenol (Surrogate)	%	0.001	74	74

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0017	0.0020
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0012	0.0017
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0005	0.0006
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0006	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTTrDA)	µg/L	0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	0.0003
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	0.0003
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	101



ANALYTICAL REPORT

ME373576 R0

		Sample Number	ME373576.013	ME373576.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184086.013	PE184086.014
Parameter	Units	LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level **Method: MA-1523** **Tested: 9/7/2025** (continued)

(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	98	95
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	96	104
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	92	103
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	92	99
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	105	93
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	127	97
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	94	85
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	85	85
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	68	52
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	40	30
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	94	90
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	112	90
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	85	102
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	95	97
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	76	73
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	68	75
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	105	110
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	62	40
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	38	47
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	78	88
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	92	96
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	65	88
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	93	104

TRH in Water MA-30.WW.05 Old & New Fractions mg/L **Method: MA30** **Tested: 9/7/2025**

TRH C10-C14	mg/L	0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05



ANALYTICAL REPORT

ME373576 R0

		Sample Number	ME373576.013	ME373576.014
		Sample Matrix	Water	Water
		Sample Date	03 Jul 2025	03 Jul 2025
		Sample Name	PE184086.013	PE184086.014
Parameter	Units	LOR		

VPH in Water MA-30 Method: MA30-VPH Tested: 8/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01



QC SUMMARY

ME373576 R0

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB091732	µg/L	0.0005	<0.0005	2 - 14%	NA
Perfluoropentanoic acid (PFPeA)	LB091732	µg/L	0.0005	<0.0005	0 - 13%	NA
Perfluorohexanoic acid (PFHxA)	LB091732	µg/L	0.0005	<0.0005	3 - 5%	NA
Perfluoroheptanoic acid (PFHpA)	LB091732	µg/L	0.0005	<0.0005	7%	75%
Perfluorooctanoic Acid (PFOA)	LB091732	µg/L	0.0002	<0.0002	0 - 25%	93%
Perfluorononanoic acid (PFNA)	LB091732	µg/L	0.001	<0.001	0%	79%
Perfluorodecanoic acid (PFDA)	LB091732	µg/L	0.001	<0.001	0%	71%
Perfluoroundecanoic acid (PFUnA)	LB091732	µg/L	0.001	<0.001	0%	75%
Perfluorododecanoic acid (PFDoA)	LB091732	µg/L	0.001	<0.001	0%	82%
Perfluorotridecanoic acid (PFTriDA)	LB091732	µg/L	0.001	<0.001	0%	69%
Perfluorotetradecanoic acid (PFTeDA)	LB091732	µg/L	0.001	<0.001	0%	75%
Perfluorohexadecanoic acid (PFHxDA)	LB091732	µg/L	0.002	<0.002	0%	NA
Perfluorobutane sulfonate (PFBS)	LB091732	µg/L	0.001	<0.001	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB091732	µg/L	0.001	<0.001	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB091732	µg/L	0.0002	<0.0002	39 - 46%	NA
Perfluoroheptane sulfonate (PFHpS)	LB091732	µg/L	0.0002	<0.0002	0%	NA
Perfluorooctane sulfonate (PFOS)	LB091732	µg/L	0.0002	<0.0002	0 - 40%	68%
Sum of PFHxS and PFOS	LB091732	µg/L	0.0002	<0.0002	40 - 46%	NA
Perfluorononane sulfonate (PFNS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
Perfluorodecane sulfonate (PFDS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB091732	µg/L	0.002	<0.002	0%	67%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB091732	µg/L	0.0025	<0.0025	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB091732	µg/L	0.0025	<0.0025	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N_MeFOSAA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
Total PFAS (n=30)	LB091732	µg/L	0.006	<0.0060		
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	101%	4%	100%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	111%	0 - 2%	99%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	101%	3%	96%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	100%	1%	101%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	98%	10 - 16%	88%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	100%	4 - 5%	97%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	93%	7 - 14%	125%
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	91%	2 - 4%	102%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	81%	6 - 7%	101%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	61%	0 - 9%	103%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	48%	3 - 9%	89%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	94%	1 - 13%	100%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	97%	8 - 26%	100%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	122%	6 - 9%	114%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	107%	0 - 4%	109%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	75%	0 - 4%	77%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	83%	2 - 14%	82%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	99%	17 - 24%	106%
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	74%	26 - 70%	82%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	59%	28 - 41%	74%
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	88%	2 - 25%	97%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	90%	15 - 19%	98%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	93%	6 - 15%	98%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	100%	5 - 12%	102%

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.

SVOC Compounds in Waters by GC-QQQ Method: MA8270

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Acenaphthene	LB091736	µg/L	1	<1	83%
Acenaphthylene	LB091736	µg/L	1	<1	NA
Anthracene	LB091736	µg/L	1	<1	NA
Benzo(a)anthracene	LB091736	µg/L	1	<1	NA
Benzo (a) pyrene	LB091736	µg/L	1	<1	NA
Benzo (b) fluoranthene	LB091736	µg/L	1	<1	NA
Benzo (ghi) perylene	LB091736	µg/L	1	<1	NA
Benzo (k) fluoranthene	LB091736	µg/L	1	<1	NA
Benzo (b+j+k) fluoranthene	LB091736	µg/L	2	<2	NA
Chrysene	LB091736	µg/L	1	<1	NA
Dibenz (ah) anthracene	LB091736	µg/L	1	<1	NA
Fluoranthene	LB091736	µg/L	1	<1	NA
Fluorene	LB091736	µg/L	1	<1	NA
Indeno (1,2,3-cd) pyrene	LB091736	µg/L	1	<1	NA
Naphthalene	LB091736	µg/L	1	<1	NA
Phenanthrene	LB091736	µg/L	1	<1	NA
Pyrene	LB091736	µg/L	1	<1	84%
d14-p-terphenyl (Surrogate)	LB091736	%	0.001	117%	104%
d5-nitrobenzene (Surrogate)	LB091736	%	0.001	134%	115%
d6-phenol (Surrogate)	LB091736	%	0.001	54%	52%
2-fluorobiphenyl (Surrogate)	LB091736	%	0.001	79%	64%
2,4,6-tribromophenol (Surrogate)	LB091736	%	0.001	92%	97%
2-fluorophenol (Surrogate)	LB091736	%	0.001	102%	101%

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH C10-C14	LB091738	mg/L	0.01	<0.01	NA
TRH C15-C28	LB091738	mg/L	0.05	<0.05	NA
TRH C29-C36	LB091738	mg/L	0.05	<0.05	NA
Total TRH C10-C36	LB091738	mg/L	0.05	<0.05	100%
Total TRH C6-C36	LB091738	mg/L	0.05	<0.05	NA
TRH >C10-C40 Total (F)	LB091738	mg/L	0.05	<0.05	NA

TRH F Bands

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH >C10-C16	LB091738	mg/L	0.01	<0.01	NA
TRH >C10-C16 less Naphthalene (F2)	LB091738	mg/L	0.01	<0.01	NA
TRH >C16-C34 (F3)	LB091738	mg/L	0.05	<0.05	NA
TRH >C34-C40 (F4)	LB091738	mg/L	0.05	<0.05	NA
Total TRH C6-C40 (F)	LB091738	mg/L	0.05	<0.05	NA

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.

USEPA 8260B Additional VOCs in water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acetone*	LB091724	mg/L	0.02	<0.02	0%	NA
Acrylonitrile*	LB091724	mg/L	0.05	<0.05	0%	NA
Carbon disulphide*	LB091724	mg/L	0.005	<0.005	0%	NA
1-Chloro-2-propene*	LB091724	mg/L	0.001	<0.001	0%	NA
cis-1,4-Dichloro-2-butene*	LB091724	mg/L	0.005	<0.005	0%	NA
trans-1,4-Dichloro-2-butene*	LB091724	mg/L	0.005	<0.005	0%	NA
2-Hexanone*	LB091724	mg/L	0.001	<0.001	0%	NA
Iodomethane*	LB091724	mg/L	0.005	<0.005	0%	NA
MEK (2-butanone)	LB091724	mg/L	0.005	<0.005	0%	NA
Methyl Isobutyl Ketone*	LB091724	mg/L	0.005	<0.005	0%	NA
Methyl tert-butyl ether*	LB091724	mg/L	0.001	<0.001	0%	NA
Vinyl Acetate*	LB091724	mg/L	0.01	<0.01	0%	NA

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Benzene	LB091723	mg/L	0.001	<0.001	0%	93%
Bromobenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Bromochloromethane	LB091723	mg/L	0.001	<0.001	0%	NA
Bromodichloromethane	LB091723	mg/L	0.001	<0.001	0%	97%
Bromomethane	LB091723	mg/L	0.001	<0.001	0%	NA
n-Butylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
s-Butylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
t-Butylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Carbon tetrachloride	LB091723	mg/L	0.001	<0.001	0%	106%
Chlorobenzene	LB091723	mg/L	0.001	<0.001	0%	105%
Chloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
Chloromethane	LB091723	mg/L	0.001	<0.001	0%	NA
2-Chlorotoluene	LB091723	mg/L	0.001	<0.001	0%	NA
4-Chlorotoluene	LB091723	mg/L	0.001	<0.001	0%	NA
Dibromochloromethane	LB091723	mg/L	0.001	<0.001	0%	108%
1,2-Dibromo-3-chloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2-Dibromoethane	LB091723	mg/L	0.001	<0.001	0%	NA
Dibromomethane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2-Dichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	100%
1,3-Dichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	NA
1,4-Dichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	102%
Dichlorodifluoromethane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2-Dichloroethane	LB091723	mg/L	0.001	<0.001	0%	99%
1,1-Dichloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
1,1-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	88%
cis-1,2-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	92%
trans-1,2-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	88%
1,2-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	NA
Dichloromethane (methylene chloride)	LB091723	mg/L	0.01	<0.01	0%	91%
1,2-Dichloropropane	LB091723	mg/L	0.001	<0.001	0%	95%
1,3-Dichloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
2,2-Dichloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
1,1-Dichloropropene	LB091723	mg/L	0.001	<0.001	0%	NA
cis-1,3-Dichloropropene	LB091723	mg/L	0.001	<0.001	0%	NA
trans-1,3-Dichloropropene	LB091723	mg/L	0.001	<0.001	0%	NA
Ethylbenzene	LB091723	mg/L	0.001	<0.001	0%	101%
Hexachloro-1,3-butadiene	LB091723	mg/L	0.001	<0.001	0%	NA
Isopropylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
p-Isopropyltoluene	LB091723	mg/L	0.001	<0.001	0%	NA
Naphthalene (VOC)	LB091723	mg/L	0.001	<0.001	0%	NA

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.

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B (continued)

				MB	DUP %RPD	LCS %Recovery
Propylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Styrene	LB091723	mg/L	0.001	<0.001	0%	94%
1,1,2,2-Tetrachloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
Tetrachloroethene	LB091723	mg/L	0.001	<0.001	0%	106%
1,1,1,2-Tetrachloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
Toluene	LB091723	mg/L	0.001	<0.001	0%	106%
Tribromomethane	LB091723	mg/L	0.001	<0.001	0%	114%
1,2,3-Trichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	NA
1,2,4-Trichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	89%
1,1,1-Trichloroethane	LB091723	mg/L	0.001	<0.001	0%	103%
1,3,5-Trichlorobenzene	LB091723	mg/L	0.001	<0.001		
1,1,2-Trichloroethane	LB091723	mg/L	0.001	<0.001	0%	104%
Trichloroethene	LB091723	mg/L	0.001	<0.001	0%	91%
Trichlorofluoromethane	LB091723	mg/L	0.001	<0.001	0%	NA
Trichloromethane	LB091723	mg/L	0.001	<0.001	0%	93%
1,2,3-Trichloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2,4-Trimethylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
1,3,5-Trimethylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Vinyl Chloride	LB091723	mg/L	0.001	<0.001	0%	87%
m&p-Xylenes	LB091723	mg/L	0.001	<0.001	0%	104%
o-Xylene	LB091723	mg/L	0.001	<0.001	0%	107%
Xylenes	LB091723	mg/L	0.001	<0.001	0%	NA
Total Trichlorobenzenes	LB091723	mg/L	0.001	<0.001	0%	NA
Total trihalomethanes (THMs)	LB091723	mg/L	0.002	<0.002	0%	NA
Total BTEX	LB091723	mg/L	0.001	<0.001	0%	NA
Toluene-d8 (surrogate)	LB091723	%	-	104%	1%	101%
1,2-Dichloroethane_D4 (Surrogate)	LB091723	%	-	105%	1 - 4%	101%
Dibromofluoromethane (Surrogate)	LB091723	%	-	104%	1 - 5%	98%
p-Bromofluorobenzene (Surrogate)	LB091723	%	-	95%	2%	107%



QC SUMMARY

ME373576 R0

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.

VPH in Water MA-30 Method: MA30-VPH

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
C6-C9 (P&T)	LB091723	mg/L	0.01	<0.01	0%	80%
C6-C10 (P&T)	LB091723	mg/L	0.01	<0.01	0%	77%
C6-C10 (P&T) less BTEX (F1)	LB091723	mg/L	0.01	<0.01	0%	NA

METHOD

METHODOLOGY SUMMARY

EPA 8260B-01

This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40. The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions". Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS).

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC-QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting.

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

ME373576 R0

CLIENT DETAILS

Contact SGS Environmental Perth
Client SGS I&E EHS PERTH AIRPORT
Address 28 Reid Road
Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
Facsimile +61 (0)8 9373 3556
Email au.environmental.subcon@sgs.com

Project **P25.045**
Order Number **PE184086**
Samples 14

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 **ME373576 R0**
Date Received 08 Jul 2025
Date Reported 11 Jul 2025

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:

Surrogate	SVOC Compounds in Waters by GC-QQQ	8 items
-----------	------------------------------------	---------

SAMPLE SUMMARY

Date documentation received	14 Water	Sample counts by matrix	8/7/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	12.6°C	Sample container provider	SGS
Turnaround time requested	Two Days	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	3 double bagged Ice
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4	Type of documentation received	COC



HOLDING TIME SUMMARY

ME373576 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 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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184086.001	ME373576.001	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.002	ME373576.002	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.003	ME373576.003	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.004	ME373576.004	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.005	ME373576.005	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.006	ME373576.006	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.007	ME373576.007	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.008	ME373576.008	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.009	ME373576.009	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.010	ME373576.010	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.011	ME373576.011	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.012	ME373576.012	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.013	ME373576.013	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184086.014	ME373576.014	LB091732	03 Jul 2025	08 Jul 2025	31 Jul 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184086.001	ME373576.001	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.002	ME373576.002	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.003	ME373576.003	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.004	ME373576.004	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.005	ME373576.005	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.006	ME373576.006	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.007	ME373576.007	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.008	ME373576.008	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.009	ME373576.009	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.010	ME373576.010	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.011	ME373576.011	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.012	ME373576.012	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.013	ME373576.013	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.014	ME373576.014	LB091736	03 Jul 2025	08 Jul 2025	10 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184086.001	ME373576.001	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.002	ME373576.002	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.003	ME373576.003	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.004	ME373576.004	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.005	ME373576.005	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.006	ME373576.006	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.007	ME373576.007	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.008	ME373576.008	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.009	ME373576.009	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.010	ME373576.010	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.011	ME373576.011	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.012	ME373576.012	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.013	ME373576.013	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184086.014	ME373576.014	LB091738	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025

USEPA 8260B Additional VOCs in water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184086.001	ME373576.001	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.002	ME373576.002	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.003	ME373576.003	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.004	ME373576.004	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.005	ME373576.005	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.006	ME373576.006	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.007	ME373576.007	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.008	ME373576.008	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.009	ME373576.009	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.010	ME373576.010	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025



HOLDING TIME SUMMARY

ME373576 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 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.

USEPA 8260B Additional VOCs in water (continued)

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184086.011	ME373576.011	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.012	ME373576.012	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.013	ME373576.013	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025
PE184086.014	ME373576.014	LB091724	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	10 Jul 2025

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184086.001	ME373576.001	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.002	ME373576.002	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.003	ME373576.003	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.004	ME373576.004	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.005	ME373576.005	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.006	ME373576.006	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.007	ME373576.007	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.008	ME373576.008	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.009	ME373576.009	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.010	ME373576.010	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.011	ME373576.011	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.012	ME373576.012	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.013	ME373576.013	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025
PE184086.014	ME373576.014	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025

VPH in Water MA-30

Method: MA30-VPH

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184086.001	ME373576.001	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.002	ME373576.002	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.003	ME373576.003	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.004	ME373576.004	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.005	ME373576.005	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.006	ME373576.006	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.007	ME373576.007	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.008	ME373576.008	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.009	ME373576.009	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.010	ME373576.010	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.011	ME373576.011	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.012	ME373576.012	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.013	ME373576.013	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184086.014	ME373576.014	LB091723	03 Jul 2025	08 Jul 2025	17 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025



SURROGATES

ME373576 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	109
	PE184086.002	ME373576.002	%	10 - 150%	117
	PE184086.003	ME373576.003	%	10 - 150%	93
	PE184086.004	ME373576.004	%	10 - 150%	94
	PE184086.005	ME373576.005	%	10 - 150%	94
	PE184086.006	ME373576.006	%	10 - 150%	106
	PE184086.007	ME373576.007	%	10 - 150%	108
	PE184086.008	ME373576.008	%	10 - 150%	104
	PE184086.009	ME373576.009	%	10 - 150%	94
	PE184086.010	ME373576.010	%	10 - 150%	105
	PE184086.011	ME373576.011	%	10 - 150%	104
	PE184086.012	ME373576.012	%	10 - 150%	103
	PE184086.013	ME373576.013	%	10 - 150%	68
	PE184086.014	ME373576.014	%	10 - 150%	52
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	87
	PE184086.002	ME373576.002	%	10 - 150%	92
	PE184086.003	ME373576.003	%	10 - 150%	78
	PE184086.004	ME373576.004	%	10 - 150%	70
	PE184086.005	ME373576.005	%	10 - 150%	92
	PE184086.006	ME373576.006	%	10 - 150%	102
	PE184086.007	ME373576.007	%	10 - 150%	80
	PE184086.008	ME373576.008	%	10 - 150%	78
	PE184086.009	ME373576.009	%	10 - 150%	98
	PE184086.010	ME373576.010	%	10 - 150%	79
	PE184086.011	ME373576.011	%	10 - 150%	101
	PE184086.012	ME373576.012	%	10 - 150%	84
	PE184086.013	ME373576.013	%	10 - 150%	95
	PE184086.014	ME373576.014	%	10 - 150%	97
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	65
	PE184086.002	ME373576.002	%	10 - 150%	70
	PE184086.003	ME373576.003	%	10 - 150%	59
	PE184086.004	ME373576.004	%	10 - 150%	58
	PE184086.005	ME373576.005	%	10 - 150%	72
	PE184086.006	ME373576.006	%	10 - 150%	82
	PE184086.007	ME373576.007	%	10 - 150%	71
	PE184086.008	ME373576.008	%	10 - 150%	73
	PE184086.009	ME373576.009	%	10 - 150%	73
	PE184086.010	ME373576.010	%	10 - 150%	60
	PE184086.011	ME373576.011	%	10 - 150%	75
	PE184086.012	ME373576.012	%	10 - 150%	57
	PE184086.013	ME373576.013	%	10 - 150%	76
	PE184086.014	ME373576.014	%	10 - 150%	73
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	61
	PE184086.002	ME373576.002	%	10 - 150%	67
	PE184086.003	ME373576.003	%	10 - 150%	57
	PE184086.004	ME373576.004	%	10 - 150%	52
	PE184086.005	ME373576.005	%	10 - 150%	73
	PE184086.006	ME373576.006	%	10 - 150%	82
	PE184086.007	ME373576.007	%	10 - 150%	70
	PE184086.008	ME373576.008	%	10 - 150%	66
	PE184086.009	ME373576.009	%	10 - 150%	64
	PE184086.010	ME373576.010	%	10 - 150%	68
	PE184086.011	ME373576.011	%	10 - 150%	64
	PE184086.012	ME373576.012	%	10 - 150%	52
	PE184086.013	ME373576.013	%	10 - 150%	68
	PE184086.014	ME373576.014	%	10 - 150%	75
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	104
	PE184086.002	ME373576.002	%	10 - 150%	114
	PE184086.003	ME373576.003	%	10 - 150%	94
	PE184086.004	ME373576.004	%	10 - 150%	96
	PE184086.005	ME373576.005	%	10 - 150%	91



SURROGATES

ME373576 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	PE184086.006	ME373576.006	%	10 - 150%	90
	PE184086.007	ME373576.007	%	10 - 150%	105
	PE184086.008	ME373576.008	%	10 - 150%	98
	PE184086.009	ME373576.009	%	10 - 150%	100
	PE184086.010	ME373576.010	%	10 - 150%	110
	PE184086.011	ME373576.011	%	10 - 150%	100
	PE184086.012	ME373576.012	%	10 - 150%	96
	PE184086.013	ME373576.013	%	10 - 150%	85
(13C2-PFHxDa) Isotopically Labelled Internal Recovery Standard	PE184086.014	ME373576.014	%	10 - 150%	85
	PE184086.001	ME373576.001	%	10 - 150%	112
	PE184086.002	ME373576.002	%	10 - 150%	119
	PE184086.003	ME373576.003	%	10 - 150%	73
	PE184086.004	ME373576.004	%	10 - 150%	96
	PE184086.005	ME373576.005	%	10 - 150%	91
	PE184086.006	ME373576.006	%	10 - 150%	98
	PE184086.007	ME373576.007	%	10 - 150%	99
	PE184086.008	ME373576.008	%	10 - 150%	97
	PE184086.009	ME373576.009	%	10 - 150%	91
	PE184086.010	ME373576.010	%	10 - 150%	81
	PE184086.011	ME373576.011	%	10 - 150%	98
	PE184086.012	ME373576.012	%	10 - 150%	88
	PE184086.013	ME373576.013	%	10 - 150%	40
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	PE184086.014	ME373576.014	%	10 - 150%	30
	PE184086.001	ME373576.001	%	10 - 150%	93
	PE184086.002	ME373576.002	%	10 - 150%	99
	PE184086.003	ME373576.003	%	10 - 150%	84
	PE184086.004	ME373576.004	%	10 - 150%	81
	PE184086.005	ME373576.005	%	10 - 150%	94
	PE184086.006	ME373576.006	%	10 - 150%	102
	PE184086.007	ME373576.007	%	10 - 150%	86
	PE184086.008	ME373576.008	%	10 - 150%	91
	PE184086.009	ME373576.009	%	10 - 150%	102
	PE184086.010	ME373576.010	%	10 - 150%	89
	PE184086.011	ME373576.011	%	10 - 150%	102
	PE184086.012	ME373576.012	%	10 - 150%	82
	PE184086.013	ME373576.013	%	10 - 150%	94
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	PE184086.014	ME373576.014	%	10 - 150%	90
	PE184086.001	ME373576.001	%	10 - 150%	102
	PE184086.002	ME373576.002	%	10 - 150%	101
	PE184086.003	ME373576.003	%	10 - 150%	87
	PE184086.004	ME373576.004	%	10 - 150%	87
	PE184086.005	ME373576.005	%	10 - 150%	92
	PE184086.006	ME373576.006	%	10 - 150%	113
	PE184086.007	ME373576.007	%	10 - 150%	103
	PE184086.008	ME373576.008	%	10 - 150%	107
	PE184086.009	ME373576.009	%	10 - 150%	130
	PE184086.010	ME373576.010	%	10 - 150%	106
	PE184086.011	ME373576.011	%	10 - 150%	108
	PE184086.012	ME373576.012	%	10 - 150%	90
	PE184086.013	ME373576.013	%	10 - 150%	112
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	PE184086.014	ME373576.014	%	10 - 150%	90
	PE184086.001	ME373576.001	%	10 - 150%	91
	PE184086.002	ME373576.002	%	10 - 150%	99
	PE184086.003	ME373576.003	%	10 - 150%	92
	PE184086.004	ME373576.004	%	10 - 150%	100
	PE184086.005	ME373576.005	%	10 - 150%	94
	PE184086.006	ME373576.006	%	10 - 150%	97
	PE184086.007	ME373576.007	%	10 - 150%	98
	PE184086.008	ME373576.008	%	10 - 150%	103
	PE184086.009	ME373576.009	%	10 - 150%	101
	PE184086.010	ME373576.010	%	10 - 150%	101



SURROGATES

ME373576 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	PE184086.011	ME373576.011	%	10 - 150%	101
	PE184086.012	ME373576.012	%	10 - 150%	89
	PE184086.013	ME373576.013	%	10 - 150%	92
	PE184086.014	ME373576.014	%	10 - 150%	99
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	100
	PE184086.002	ME373576.002	%	10 - 150%	99
	PE184086.003	ME373576.003	%	10 - 150%	99
	PE184086.004	ME373576.004	%	10 - 150%	102
	PE184086.005	ME373576.005	%	10 - 150%	102
	PE184086.006	ME373576.006	%	10 - 150%	103
	PE184086.007	ME373576.007	%	10 - 150%	101
	PE184086.008	ME373576.008	%	10 - 150%	98
	PE184086.009	ME373576.009	%	10 - 150%	100
	PE184086.010	ME373576.010	%	10 - 150%	102
	PE184086.011	ME373576.011	%	10 - 150%	100
	PE184086.012	ME373576.012	%	10 - 150%	102
	PE184086.013	ME373576.013	%	10 - 150%	100
	PE184086.014	ME373576.014	%	10 - 150%	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	99
	PE184086.002	ME373576.002	%	10 - 150%	102
	PE184086.003	ME373576.003	%	10 - 150%	94
	PE184086.004	ME373576.004	%	10 - 150%	101
	PE184086.005	ME373576.005	%	10 - 150%	102
	PE184086.006	ME373576.006	%	10 - 150%	104
	PE184086.007	ME373576.007	%	10 - 150%	97
	PE184086.008	ME373576.008	%	10 - 150%	103
	PE184086.009	ME373576.009	%	10 - 150%	104
	PE184086.010	ME373576.010	%	10 - 150%	104
	PE184086.011	ME373576.011	%	10 - 150%	103
	PE184086.012	ME373576.012	%	10 - 150%	98
	PE184086.013	ME373576.013	%	10 - 150%	92
	PE184086.014	ME373576.014	%	10 - 150%	103
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	97
	PE184086.002	ME373576.002	%	10 - 150%	105
	PE184086.003	ME373576.003	%	10 - 150%	92
	PE184086.004	ME373576.004	%	10 - 150%	99
	PE184086.005	ME373576.005	%	10 - 150%	95
	PE184086.006	ME373576.006	%	10 - 150%	99
	PE184086.007	ME373576.007	%	10 - 150%	91
	PE184086.008	ME373576.008	%	10 - 150%	89
	PE184086.009	ME373576.009	%	10 - 150%	98
	PE184086.010	ME373576.010	%	10 - 150%	101
	PE184086.011	ME373576.011	%	10 - 150%	99
	PE184086.012	ME373576.012	%	10 - 150%	96
	PE184086.013	ME373576.013	%	10 - 150%	96
	PE184086.014	ME373576.014	%	10 - 150%	104
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	96
	PE184086.002	ME373576.002	%	10 - 150%	96
	PE184086.003	ME373576.003	%	10 - 150%	97
	PE184086.004	ME373576.004	%	10 - 150%	102
	PE184086.005	ME373576.005	%	10 - 150%	95
	PE184086.006	ME373576.006	%	10 - 150%	96
	PE184086.007	ME373576.007	%	10 - 150%	146
	PE184086.008	ME373576.008	%	10 - 150%	146
	PE184086.009	ME373576.009	%	10 - 150%	97
	PE184086.010	ME373576.010	%	10 - 150%	98
	PE184086.011	ME373576.011	%	10 - 150%	97
	PE184086.012	ME373576.012	%	10 - 150%	99
	PE184086.013	ME373576.013	%	10 - 150%	98
	PE184086.014	ME373576.014	%	10 - 150%	95
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	89



SURROGATES

ME373576 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	PE184086.002	ME373576.002	%	10 - 150%	91
	PE184086.003	ME373576.003	%	10 - 150%	101
	PE184086.004	ME373576.004	%	10 - 150%	92
	PE184086.005	ME373576.005	%	10 - 150%	95
	PE184086.006	ME373576.006	%	10 - 150%	83
	PE184086.007	ME373576.007	%	10 - 150%	93
	PE184086.008	ME373576.008	%	10 - 150%	127
	PE184086.009	ME373576.009	%	10 - 150%	100
	PE184086.010	ME373576.010	%	10 - 150%	121
	PE184086.011	ME373576.011	%	10 - 150%	101
	PE184086.012	ME373576.012	%	10 - 150%	97
	PE184086.013	ME373576.013	%	10 - 150%	127
	PE184086.014	ME373576.014	%	10 - 150%	97
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	96
	PE184086.002	ME373576.002	%	10 - 150%	105
	PE184086.003	ME373576.003	%	10 - 150%	99
	PE184086.004	ME373576.004	%	10 - 150%	91
	PE184086.005	ME373576.005	%	10 - 150%	92
	PE184086.006	ME373576.006	%	10 - 150%	100
	PE184086.007	ME373576.007	%	10 - 150%	97
	PE184086.008	ME373576.008	%	10 - 150%	99
	PE184086.009	ME373576.009	%	10 - 150%	110
	PE184086.010	ME373576.010	%	10 - 150%	109
	PE184086.011	ME373576.011	%	10 - 150%	97
	PE184086.012	ME373576.012	%	10 - 150%	88
	PE184086.013	ME373576.013	%	10 - 150%	94
	PE184086.014	ME373576.014	%	10 - 150%	85
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	86
	PE184086.002	ME373576.002	%	10 - 150%	98
	PE184086.003	ME373576.003	%	10 - 150%	133
	PE184086.004	ME373576.004	%	10 - 150%	83
	PE184086.005	ME373576.005	%	10 - 150%	121
	PE184086.006	ME373576.006	%	10 - 150%	97
	PE184086.007	ME373576.007	%	10 - 150%	109
	PE184086.008	ME373576.008	%	10 - 150%	106
	PE184086.009	ME373576.009	%	10 - 150%	112
	PE184086.010	ME373576.010	%	10 - 150%	104
	PE184086.011	ME373576.011	%	10 - 150%	93
	PE184086.012	ME373576.012	%	10 - 150%	122
	PE184086.013	ME373576.013	%	10 - 150%	85
	PE184086.014	ME373576.014	%	10 - 150%	102
(13C8-PFOA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	92
	PE184086.002	ME373576.002	%	10 - 150%	93
	PE184086.003	ME373576.003	%	10 - 150%	130
	PE184086.004	ME373576.004	%	10 - 150%	83
	PE184086.005	ME373576.005	%	10 - 150%	85
	PE184086.006	ME373576.006	%	10 - 150%	92
	PE184086.007	ME373576.007	%	10 - 150%	95
	PE184086.008	ME373576.008	%	10 - 150%	104
	PE184086.009	ME373576.009	%	10 - 150%	109
	PE184086.010	ME373576.010	%	10 - 150%	114
	PE184086.011	ME373576.011	%	10 - 150%	97
	PE184086.012	ME373576.012	%	10 - 150%	106
	PE184086.013	ME373576.013	%	10 - 150%	105
	PE184086.014	ME373576.014	%	10 - 150%	110
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	94
	PE184086.002	ME373576.002	%	10 - 150%	103
	PE184086.003	ME373576.003	%	10 - 150%	106
	PE184086.004	ME373576.004	%	10 - 150%	102
	PE184086.005	ME373576.005	%	10 - 150%	86
	PE184086.006	ME373576.006	%	10 - 150%	104



SURROGATES

ME373576 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	PE184086.007	ME373576.007	%	10 - 150%	102
	PE184086.008	ME373576.008	%	10 - 150%	94
	PE184086.009	ME373576.009	%	10 - 150%	102
	PE184086.010	ME373576.010	%	10 - 150%	96
	PE184086.011	ME373576.011	%	10 - 150%	96
	PE184086.012	ME373576.012	%	10 - 150%	88
	PE184086.013	ME373576.013	%	10 - 150%	105
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	PE184086.014	ME373576.014	%	10 - 150%	93
	PE184086.001	ME373576.001	%	10 - 150%	102
	PE184086.002	ME373576.002	%	10 - 150%	111
	PE184086.003	ME373576.003	%	10 - 150%	148
	PE184086.004	ME373576.004	%	10 - 150%	84
	PE184086.005	ME373576.005	%	10 - 150%	91
	PE184086.006	ME373576.006	%	10 - 150%	117
	PE184086.007	ME373576.007	%	10 - 150%	109
	PE184086.008	ME373576.008	%	10 - 150%	93
	PE184086.009	ME373576.009	%	10 - 150%	108
	PE184086.010	ME373576.010	%	10 - 150%	62
	PE184086.011	ME373576.011	%	10 - 150%	61
	PE184086.012	ME373576.012	%	10 - 150%	80
	PE184086.013	ME373576.013	%	10 - 150%	62
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	PE184086.014	ME373576.014	%	10 - 150%	40
	PE184086.001	ME373576.001	%	10 - 150%	70
	PE184086.002	ME373576.002	%	10 - 150%	90
	PE184086.003	ME373576.003	%	10 - 150%	91
	PE184086.004	ME373576.004	%	10 - 150%	60
	PE184086.005	ME373576.005	%	10 - 150%	85
	PE184086.006	ME373576.006	%	10 - 150%	80
	PE184086.007	ME373576.007	%	10 - 150%	61
	PE184086.008	ME373576.008	%	10 - 150%	79
	PE184086.009	ME373576.009	%	10 - 150%	80
	PE184086.010	ME373576.010	%	10 - 150%	83
	PE184086.011	ME373576.011	%	10 - 150%	69
	PE184086.012	ME373576.012	%	10 - 150%	81
	PE184086.013	ME373576.013	%	10 - 150%	65
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	PE184086.014	ME373576.014	%	10 - 150%	88
	PE184086.001	ME373576.001	%	10 - 150%	78
	PE184086.002	ME373576.002	%	10 - 150%	78
	PE184086.003	ME373576.003	%	10 - 150%	77
	PE184086.004	ME373576.004	%	10 - 150%	80
	PE184086.005	ME373576.005	%	10 - 150%	82
	PE184086.006	ME373576.006	%	10 - 150%	82
	PE184086.007	ME373576.007	%	10 - 150%	53
	PE184086.008	ME373576.008	%	10 - 150%	84
	PE184086.009	ME373576.009	%	10 - 150%	84
	PE184086.010	ME373576.010	%	10 - 150%	87
	PE184086.011	ME373576.011	%	10 - 150%	60
	PE184086.012	ME373576.012	%	10 - 150%	56
	PE184086.013	ME373576.013	%	10 - 150%	38
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	PE184086.014	ME373576.014	%	10 - 150%	47
	PE184086.001	ME373576.001	%	10 - 150%	80
	PE184086.002	ME373576.002	%	10 - 150%	95
	PE184086.003	ME373576.003	%	10 - 150%	119
	PE184086.004	ME373576.004	%	10 - 150%	78
	PE184086.005	ME373576.005	%	10 - 150%	122
	PE184086.006	ME373576.006	%	10 - 150%	75
	PE184086.007	ME373576.007	%	10 - 150%	77
	PE184086.008	ME373576.008	%	10 - 150%	83
	PE184086.009	ME373576.009	%	10 - 150%	112
	PE184086.010	ME373576.010	%	10 - 150%	83
	PE184086.011	ME373576.011	%	10 - 150%	88



SURROGATES

ME373576 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	PE184086.012	ME373576.012	%	10 - 150%	101
	PE184086.013	ME373576.013	%	10 - 150%	93
	PE184086.014	ME373576.014	%	10 - 150%	104
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	82
	PE184086.002	ME373576.002	%	10 - 150%	94
	PE184086.003	ME373576.003	%	10 - 150%	124
	PE184086.004	ME373576.004	%	10 - 150%	83
	PE184086.005	ME373576.005	%	10 - 150%	125
	PE184086.006	ME373576.006	%	10 - 150%	105
	PE184086.007	ME373576.007	%	10 - 150%	87
	PE184086.008	ME373576.008	%	10 - 150%	101
	PE184086.009	ME373576.009	%	10 - 150%	115
	PE184086.010	ME373576.010	%	10 - 150%	113
	PE184086.011	ME373576.011	%	10 - 150%	102
	PE184086.012	ME373576.012	%	10 - 150%	95
	PE184086.013	ME373576.013	%	10 - 150%	78
	PE184086.014	ME373576.014	%	10 - 150%	88
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	PE184086.001	ME373576.001	%	10 - 150%	85
	PE184086.002	ME373576.002	%	10 - 150%	99
	PE184086.003	ME373576.003	%	10 - 150%	102
	PE184086.004	ME373576.004	%	10 - 150%	78
	PE184086.005	ME373576.005	%	10 - 150%	124
	PE184086.006	ME373576.006	%	10 - 150%	86
	PE184086.007	ME373576.007	%	10 - 150%	90
	PE184086.008	ME373576.008	%	10 - 150%	102
	PE184086.009	ME373576.009	%	10 - 150%	106
	PE184086.010	ME373576.010	%	10 - 150%	97
	PE184086.011	ME373576.011	%	10 - 150%	86
	PE184086.012	ME373576.012	%	10 - 150%	104
	PE184086.013	ME373576.013	%	10 - 150%	92
	PE184086.014	ME373576.014	%	10 - 150%	96

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	PE184086.001	ME373576.001	%	40 - 130%	74
	PE184086.002	ME373576.002	%	40 - 130%	108
	PE184086.003	ME373576.003	%	40 - 130%	82
	PE184086.004	ME373576.004	%	40 - 130%	77
	PE184086.005	ME373576.005	%	40 - 130%	92
	PE184086.006	ME373576.006	%	40 - 130%	88
	PE184086.007	ME373576.007	%	40 - 130%	97
	PE184086.008	ME373576.008	%	40 - 130%	108
	PE184086.009	ME373576.009	%	40 - 130%	102
	PE184086.010	ME373576.010	%	40 - 130%	102
	PE184086.011	ME373576.011	%	40 - 130%	84
	PE184086.012	ME373576.012	%	40 - 130%	98
	PE184086.013	ME373576.013	%	40 - 130%	78
	PE184086.014	ME373576.014	%	40 - 130%	72
2-fluorobiphenyl (Surrogate)	PE184086.001	ME373576.001	%	40 - 130%	78
	PE184086.002	ME373576.002	%	40 - 130%	60
	PE184086.003	ME373576.003	%	40 - 130%	64
	PE184086.004	ME373576.004	%	40 - 130%	83
	PE184086.005	ME373576.005	%	40 - 130%	66
	PE184086.006	ME373576.006	%	40 - 130%	87
	PE184086.007	ME373576.007	%	40 - 130%	89
	PE184086.008	ME373576.008	%	40 - 130%	95
	PE184086.009	ME373576.009	%	40 - 130%	92
	PE184086.010	ME373576.010	%	40 - 130%	77
	PE184086.011	ME373576.011	%	40 - 130%	66
	PE184086.012	ME373576.012	%	40 - 130%	95
	PE184086.013	ME373576.013	%	40 - 130%	70



SURROGATES

ME373576 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	PE184086.014	ME373576.014	%	40 - 130%	97
	PE184086.001	ME373576.001	%	40 - 130%	90
2-fluorophenol (Surrogate)	PE184086.002	ME373576.002	%	40 - 130%	104
	PE184086.003	ME373576.003	%	40 - 130%	87
	PE184086.004	ME373576.004	%	40 - 130%	89
	PE184086.005	ME373576.005	%	40 - 130%	102
	PE184086.006	ME373576.006	%	40 - 130%	89
	PE184086.007	ME373576.007	%	40 - 130%	117
	PE184086.008	ME373576.008	%	40 - 130%	114
	PE184086.009	ME373576.009	%	40 - 130%	95
	PE184086.010	ME373576.010	%	40 - 130%	120
	PE184086.011	ME373576.011	%	40 - 130%	102
	PE184086.012	ME373576.012	%	40 - 130%	116
	PE184086.013	ME373576.013	%	40 - 130%	74
	PE184086.014	ME373576.014	%	40 - 130%	74
d14-p-terphenyl (Surrogate)	PE184086.001	ME373576.001	%	40 - 130%	84
	PE184086.002	ME373576.002	%	40 - 130%	95
	PE184086.003	ME373576.003	%	40 - 130%	91
	PE184086.004	ME373576.004	%	40 - 130%	94
	PE184086.005	ME373576.005	%	40 - 130%	85
	PE184086.006	ME373576.006	%	40 - 130%	90
	PE184086.007	ME373576.007	%	40 - 130%	87
	PE184086.008	ME373576.008	%	40 - 130%	89
	PE184086.009	ME373576.009	%	40 - 130%	93
	PE184086.010	ME373576.010	%	40 - 130%	87
	PE184086.011	ME373576.011	%	40 - 130%	79
	PE184086.012	ME373576.012	%	40 - 130%	90
	PE184086.013	ME373576.013	%	40 - 130%	86
	PE184086.014	ME373576.014	%	40 - 130%	80
d5-nitrobenzene (Surrogate)	PE184086.001	ME373576.001	%	40 - 130%	96
	PE184086.002	ME373576.002	%	40 - 130%	108
	PE184086.003	ME373576.003	%	40 - 130%	108
	PE184086.004	ME373576.004	%	40 - 130%	106
	PE184086.005	ME373576.005	%	40 - 130%	100
	PE184086.006	ME373576.006	%	40 - 130%	103
	PE184086.007	ME373576.007	%	40 - 130%	92
	PE184086.008	ME373576.008	%	40 - 130%	99
	PE184086.009	ME373576.009	%	40 - 130%	89
	PE184086.010	ME373576.010	%	40 - 130%	86
	PE184086.011	ME373576.011	%	40 - 130%	102
	PE184086.012	ME373576.012	%	40 - 130%	105
	PE184086.013	ME373576.013	%	40 - 130%	106
	PE184086.014	ME373576.014	%	40 - 130%	98
d6-phenol (Surrogate)	PE184086.001	ME373576.001	%	40 - 130%	38 ↑
	PE184086.002	ME373576.002	%	40 - 130%	44
	PE184086.003	ME373576.003	%	40 - 130%	33 ↑
	PE184086.004	ME373576.004	%	40 - 130%	36 ↑
	PE184086.005	ME373576.005	%	40 - 130%	35 ↑
	PE184086.006	ME373576.006	%	40 - 130%	37 ↑
	PE184086.007	ME373576.007	%	40 - 130%	55
	PE184086.008	ME373576.008	%	40 - 130%	50
	PE184086.009	ME373576.009	%	40 - 130%	34 ↑
	PE184086.010	ME373576.010	%	40 - 130%	53
	PE184086.011	ME373576.011	%	40 - 130%	52
	PE184086.012	ME373576.012	%	40 - 130%	59
	PE184086.013	ME373576.013	%	40 - 130%	34 ↑
	PE184086.014	ME373576.014	%	40 - 130%	29 ↑

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units
-----------	-------------	---------------	-------



SURROGATES

ME373576 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	PE184086.001	ME373576.001	%	60 - 130%	103
	PE184086.002	ME373576.002	%	60 - 130%	106
	PE184086.003	ME373576.003	%	60 - 130%	106
	PE184086.004	ME373576.004	%	60 - 130%	106
	PE184086.005	ME373576.005	%	60 - 130%	106
	PE184086.006	ME373576.006	%	60 - 130%	106
	PE184086.007	ME373576.007	%	60 - 130%	108
	PE184086.008	ME373576.008	%	60 - 130%	108
	PE184086.009	ME373576.009	%	60 - 130%	106
	PE184086.010	ME373576.010	%	60 - 130%	107
	PE184086.011	ME373576.011	%	60 - 130%	123
	PE184086.012	ME373576.012	%	60 - 130%	109
	PE184086.013	ME373576.013	%	60 - 130%	109
	PE184086.014	ME373576.014	%	60 - 130%	109
Dibromofluoromethane (Surrogate)	PE184086.001	ME373576.001	%	60 - 130%	100
	PE184086.002	ME373576.002	%	60 - 130%	102
	PE184086.003	ME373576.003	%	60 - 130%	103
	PE184086.004	ME373576.004	%	60 - 130%	103
	PE184086.005	ME373576.005	%	60 - 130%	104
	PE184086.006	ME373576.006	%	60 - 130%	104
	PE184086.007	ME373576.007	%	60 - 130%	106
	PE184086.008	ME373576.008	%	60 - 130%	106
	PE184086.009	ME373576.009	%	60 - 130%	103
	PE184086.010	ME373576.010	%	60 - 130%	105
	PE184086.011	ME373576.011	%	60 - 130%	106
	PE184086.012	ME373576.012	%	60 - 130%	106
	PE184086.013	ME373576.013	%	60 - 130%	106
	PE184086.014	ME373576.014	%	60 - 130%	105
p_Bromofluorobenzene (Surrogate)	PE184086.001	ME373576.001	%	60 - 130%	93
	PE184086.002	ME373576.002	%	60 - 130%	94
	PE184086.003	ME373576.003	%	60 - 130%	93
	PE184086.004	ME373576.004	%	60 - 130%	92
	PE184086.005	ME373576.005	%	60 - 130%	92
	PE184086.006	ME373576.006	%	60 - 130%	94
	PE184086.007	ME373576.007	%	60 - 130%	94
	PE184086.008	ME373576.008	%	60 - 130%	93
	PE184086.009	ME373576.009	%	60 - 130%	92
	PE184086.010	ME373576.010	%	60 - 130%	93
	PE184086.011	ME373576.011	%	60 - 130%	94
	PE184086.012	ME373576.012	%	60 - 130%	93
	PE184086.013	ME373576.013	%	60 - 130%	92
	PE184086.014	ME373576.014	%	60 - 130%	92
Toluene-d8 (surrogate)	PE184086.001	ME373576.001	%	60 - 130%	103
	PE184086.002	ME373576.002	%	60 - 130%	103
	PE184086.003	ME373576.003	%	60 - 130%	102
	PE184086.004	ME373576.004	%	60 - 130%	101
	PE184086.005	ME373576.005	%	60 - 130%	103
	PE184086.006	ME373576.006	%	60 - 130%	104
	PE184086.007	ME373576.007	%	60 - 130%	103
	PE184086.008	ME373576.008	%	60 - 130%	103
	PE184086.009	ME373576.009	%	60 - 130%	103
	PE184086.010	ME373576.010	%	60 - 130%	104
	PE184086.011	ME373576.011	%	60 - 130%	103
	PE184086.012	ME373576.012	%	60 - 130%	103
	PE184086.013	ME373576.013	%	60 - 130%	103
	PE184086.014	ME373576.014	%	60 - 130%	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 Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result
LB091732.001	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	<0.0005
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002
	Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001
	Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001
	Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002
	Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001
	Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001
	Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002
	Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002
	Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002
	Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005
	Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005
	Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002
	N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025
	2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	µg/L	0.0025	<0.0025
	2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	µg/L	0.0025	<0.0025
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	µg/L	0.0025	<0.0025
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	%	-	111
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	%	-	98
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	%	-	93
	(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	%	-	91
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	%	-	81
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	%	-	61
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	%	-	48
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	%	-	94
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	%	-	97
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	%	-	122
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	107
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	75
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	83
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	%	-	99
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	%	-	74
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	%	-	59
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	%	-	88
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	%	-	90
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	93
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	100

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091736.001	Acenaphthene	µg/L	1	<1
	Acenaphthylene	µg/L	1	<1
	Anthracene	µg/L	1	<1



METHOD BLANKS

ME373576 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091736.001	Benzo(a)anthracene	µg/L	1	<1
	Benzo (a) pyrene	µg/L	1	<1
	Benzo (b) fluoranthene	µg/L	1	<1
	Benzo (ghi) perylene	µg/L	1	<1
	Benzo (k) fluoranthene	µg/L	1	<1
	Benzo (b+j+k) fluoranthene	µg/L	2	<2
	Chrysene	µg/L	1	<1
	Dibenz (ah) anthracene	µg/L	1	<1
	Fluoranthene	µg/L	1	<1
	Fluorene	µg/L	1	<1
	Indeno (1,2,3-cd) pyrene	µg/L	1	<1
	Naphthalene	µg/L	1	<1
	Phenanthrene	µg/L	1	<1
	Pyrene	µg/L	1	<1

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result
LB091738.001	TRH C10-C14	mg/L	0.01	<0.01
	TRH C15-C28	mg/L	0.05	<0.05
	TRH C29-C36	mg/L	0.05	<0.05
	Total TRH C10-C36	mg/L	0.05	<0.05
	Total TRH C6-C36	mg/L	0.05	<0.05
	TRH >C10-C40 Total (F)	mg/L	0.05	<0.05
	TRH F Bands	mg/L	0.01	<0.01
	TRH >C10-C16	mg/L	0.01	<0.01
	TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01
	TRH >C16-C34 (F3)	mg/L	0.05	<0.05
	TRH >C34-C40 (F4)	mg/L	0.05	<0.05
	Total TRH C6-C40 (F)	mg/L	0.05	<0.05

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091723.001	Benzene	mg/L	0.001	<0.001
	Bromobenzene	mg/L	0.001	<0.001
	Bromochloromethane	mg/L	0.001	<0.001
	Bromodichloromethane	mg/L	0.001	<0.001
	Bromomethane	mg/L	0.001	<0.001
	n-Butylbenzene	mg/L	0.001	<0.001
	s-Butylbenzene	mg/L	0.001	<0.001
	t-Butylbenzene	mg/L	0.001	<0.001
	Carbon tetrachloride	mg/L	0.001	<0.001
	Chlorobenzene	mg/L	0.001	<0.001
	Chloroethane	mg/L	0.001	<0.001
	Chloromethane	mg/L	0.001	<0.001
	2-Chlorotoluene	mg/L	0.001	<0.001
	4-Chlorotoluene	mg/L	0.001	<0.001
	Dibromochloromethane	mg/L	0.001	<0.001
	1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001
	1,2-Dibromoethane	mg/L	0.001	<0.001
	Dibromomethane	mg/L	0.001	<0.001
	1,2-Dichlorobenzene	mg/L	0.001	<0.001
	1,3-Dichlorobenzene	mg/L	0.001	<0.001
	1,4-Dichlorobenzene	mg/L	0.001	<0.001
	Dichlorodifluoromethane	mg/L	0.001	<0.001
	1,2-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethene	mg/L	0.001	<0.001
	cis-1,2-Dichloroethene	mg/L	0.001	<0.001
	trans-1,2-Dichloroethene	mg/L	0.001	<0.001
	Dichloromethane (methylene chloride)	mg/L	0.01	<0.01
	1,2-Dichloropropane	mg/L	0.001	<0.001
	1,3-Dichloropropane	mg/L	0.001	<0.001
	2,2-Dichloropropane	mg/L	0.001	<0.001



METHOD BLANKS

ME373576 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091723.001	1,1-Dichloropropene	mg/L	0.001	<0.001
	cis-1,3-Dichloropropene	mg/L	0.001	<0.001
	trans-1,3-Dichloropropene	mg/L	0.001	<0.001
	Ethylbenzene	mg/L	0.001	<0.001
	Hexachloro-1,3-butadiene	mg/L	0.001	<0.001
	Isopropylbenzene	mg/L	0.001	<0.001
	p-Isopropyltoluene	mg/L	0.001	<0.001
	Naphthalene (VOC)	mg/L	0.001	<0.001
	Propylbenzene	mg/L	0.001	<0.001
	Styrene	mg/L	0.001	<0.001
	1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001
	Tetrachloroethene	mg/L	0.001	<0.001
	1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001
	Toluene	mg/L	0.001	<0.001
	Tribromomethane	mg/L	0.001	<0.001
	1,2,3-Trichlorobenzene	mg/L	0.001	<0.001
	1,2,4-Trichlorobenzene	mg/L	0.001	<0.001
	1,1,1-Trichloroethane	mg/L	0.001	<0.001
	1,1,2-Trichloroethane	mg/L	0.001	<0.001
	Trichloroethene	mg/L	0.001	<0.001
	Trichlorofluoromethane	mg/L	0.001	<0.001
	Trichloromethane	mg/L	0.001	<0.001
	1,2,3-Trichloropropane	mg/L	0.001	<0.001
	1,2,4-Trimethylbenzene	mg/L	0.001	<0.001
	1,3,5-Trimethylbenzene	mg/L	0.001	<0.001
	Vinyl Chloride	mg/L	0.001	<0.001
	m&p-Xylenes	mg/L	0.001	<0.001
	o-Xylene	mg/L	0.001	<0.001
	Xylenes	mg/L	0.001	<0.001
	Toluene-d8 (surrogate)	%	-	104
	1,2-Dichloroethane_D4 (Surrogate)	%	-	105
	Dibromofluoromethane (Surrogate)	%	-	104
	p_Bromofluorobenzene (Surrogate)	%	-	95

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result
LB091723.001	C6-C9 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373575.001	LB091732.004	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0026	0.0027	200	2
		Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0032	0.0033	200	3
		Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0013	0.0014	200	7
		Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0016	0.0012	200	25
		Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	200	0
		Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0026	0.0039	200	39
		Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.0034	0.0051	200	40
		Sum of PFHxS and PFOS	µg/L	0.0002	0.0060	0.0090	200	40
		Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	µg/L	-	10.2	9.87	200	4
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	µg/L	-	10.2	9.99	200	2
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	µg/L	-	9.51	9.76	200	3
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	µg/L	-	9.55	9.51	200	1
		(13C4_PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.84	8.95	200	10
		(13C9-PFNA) Isotopically Labelled Internal Recovery	µg/L	-	9.12	8.72	200	5
		(13C6-PFDA) Isotopically Labelled Internal Recovery	µg/L	-	8.83	8.21	200	7
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	µg/L	-	10.2	9.98	200	2
		(13C2-PFDoA) Isotopically Labelled Internal Recovery	µg/L	-	9.93	10.5	200	6
		(13C2_PFTeDA) Isotopically Labelled Internal Recovery	µg/L	-	9.52	10.4	200	9
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	µg/L	-	10.4	10.7	200	3
		(13C3-PFBS) Isotopically Labelled Internal Recovery	µg/L	-	9.85	11.2	200	13
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	µg/L	-	10.7	13.9	200	26
		(13C8-PFOS) Isotopically Labelled Internal Recovery	µg/L	-	10.8	11.8	200	9
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	9.62	10.1	200	4
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	6.80	7.08	200	4
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	7.32	6.35	200	14
		(13C8-PFOSA) Isotopically Labelled Internal Recovery	µg/L	-	8.49	10.8	200	24
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	µg/L	-	5.50	11.4	200	70
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	µg/L	-	5.58	8.47	200	41
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	µg/L	-	8.52	11.0	200	25
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	µg/L	-	9.09	11.0	200	19
		(D3-N-MeFOSAA) Isotopically Labelled Internal	µg/L	-	7.74	7.28	200	6
		(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	µg/L	-	8.12	7.17	200	12
ME373576.007	LB091732.015	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0099	0.0087	200	14
		Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	0.0060	0.0069	200	13
		Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0044	0.0046	200	5
		Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0006	0.0006	200	7
		Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	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 give a different calculated RPD.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level (continued)

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373576.007	LB091732.015	Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	200	0
		Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0010	0.0016	200	46
		Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Sum of PFHxS and PFOS	µg/L	0.0002	0.0010	0.0016	200	46
		Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	µg/L	-	10.1	9.67	200	4
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	µg/L	-	14.6	14.5	200	0
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	µg/L	-	9.14	8.89	200	3
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	µg/L	-	9.73	9.82	200	1
		(13C4_PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.79	8.38	200	16
		(13C9-PFNA) Isotopically Labelled Internal Recovery	µg/L	-	10.2	9.85	200	4
		(13C6-PFDA) Isotopically Labelled Internal Recovery	µg/L	-	9.32	10.7	200	14
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	µg/L	-	9.73	10.2	200	4
		(13C2-PFDoA) Isotopically Labelled Internal Recovery	µg/L	-	10.5	9.82	200	7
		(13C2_PFTeDA) Isotopically Labelled Internal Recovery	µg/L	-	10.8	10.8	200	0
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	µg/L	-	9.92	10.9	200	9
		(13C3-PFBS) Isotopically Labelled Internal Recovery	µg/L	-	8.58	8.70	200	1
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	µg/L	-	10.3	9.51	200	8
		(13C8-PFOS) Isotopically Labelled Internal Recovery	µg/L	-	10.9	10.2	200	6
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	8.03	8.06	200	0
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	7.09	7.10	200	0
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	6.99	7.14	200	2
		(13C8-PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.48	11.3	200	17
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	µg/L	-	10.9	8.45	200	26
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	µg/L	-	5.28	6.96	200	28
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	µg/L	-	8.75	8.56	200	2
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	µg/L	-	9.03	10.5	200	15
		(D3-N-MeFOSAA) Isotopically Labelled Internal	µg/L	-	6.08	7.09	200	15
		(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	µg/L	-	7.65	7.31	200	5

USEPA 8260B Additional VOCs in water

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091724.006	Acetone*	mg/L	0.02	<0.02	<0.02	200	0
		Acrylonitrile*	mg/L	0.05	<0.05	<0.05	200	0
		Carbon disulphide*	mg/L	0.005	<0.005	<0.005	200	0
		1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		2-Hexanone*	mg/L	0.001	<0.001	<0.001	200	0
		Iodomethane*	mg/L	0.005	<0.005	<0.005	200	0
		MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	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 give a different calculated RPD.

USEPA 8260B Additional VOCs in water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091724.006	Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	200	0
		Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	200	0
ME373576.008	LB091724.016	Acetone*	mg/L	0.02	<0.02	<0.02	200	0
		Acrylonitrile*	mg/L	0.05	<0.05	<0.05	200	0
		Carbon disulphide*	mg/L	0.005	<0.005	<0.005	200	0
		1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		2-Hexanone*	mg/L	0.001	<0.001	<0.001	200	0
		Iodomethane*	mg/L	0.005	<0.005	<0.005	200	0
		MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	200	0
		Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	200	0
		Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	200	0

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091723.006	Benzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromodichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromomethane	mg/L	0.001	<0.001	<0.001	200	0
		n-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		s-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		t-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	200	0
		Chlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Chloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Chloromethane	mg/L	0.001	<0.001	<0.001	200	0
		2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		Dibromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	200	0
		Dibromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	200	0
		1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		Ethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	200	0
		Isopropylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	200	0
		Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	200	0
		Propylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Styrene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0



DUPLICATES

ME373576 R0

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

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: $MAD = 100 \times SDL / Mean + LR$

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.

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091723.006	Tetrachloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Toluene	mg/L	0.001	<0.001	<0.001	200	0
		Tribromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Chloride	mg/L	0.001	<0.001	<0.001	200	0
		m&p-Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		o-Xylene	mg/L	0.001	<0.001	<0.001	200	0
		Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	200	0
		Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	200	0
		Total BTEX	mg/L	0.001	<0.001	<0.001	200	0
		Toluene-d8 (surrogate)	µg/L	-	51.9	51.2	30	1
		1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	50.5	52.4	30	4
		Dibromofluoromethane (Surrogate)	µg/L	-	48.9	51.6	30	5
		p_Bromofluorobenzene (Surrogate)	µg/L	-	46.3	47.2	30	2
ME373576.005	LB091723.016	Benzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromodichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromomethane	mg/L	0.001	<0.001	<0.001	200	0
		n-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		s-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		t-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	200	0
		Chlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Chloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Chloromethane	mg/L	0.001	<0.001	<0.001	200	0
		2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		Dibromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	200	0
		Dibromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	200	0
		1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		Ethylbenzene	mg/L	0.001	<0.001	<0.001	200	0

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

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: $MAD = 100 \times SDL / Mean + LR$

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.

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373576.005	LB091723.016	Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	200	0
		Isopropylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	200	0
		Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	200	0
		Propylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Styrene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Tetrachloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Toluene	mg/L	0.001	<0.001	<0.001	200	0
		Tribromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Chloride	mg/L	0.001	<0.001	<0.001	200	0
		m&p-Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		o-Xylene	mg/L	0.001	<0.001	<0.001	200	0
		Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	200	0
		Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	200	0
		Total BTEX	mg/L	0.001	<0.001	<0.001	200	0
		Toluene-d8 (surrogate)	µg/L	-	51.4	51.7	30	1
		1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	53.2	53.9	30	1
		Dibromofluoromethane (Surrogate)	µg/L	-	52.0	52.6	30	1
		p_Bromofluorobenzene (Surrogate)	µg/L	-	46.2	47.1	30	2

VPH in Water MA-30

Method: MA30-VPH

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091723.006	C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	200	0
ME373576.005	LB091723.016	C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091732.002	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.015	0.02	40 - 150	75
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.019	0.02	40 - 150	93
	Perfluorononanoic acid (PFNA)	µg/L	0.001	0.016	0.02	40 - 150	79
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	0.014	0.02	40 - 150	71
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	0.015	0.02	40 - 150	75
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	0.016	0.02	40 - 150	82
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	0.014	0.02	40 - 150	69
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	0.015	0.02	40 - 150	75
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.014	0.02	40 - 150	68
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	0.013	0.02	40 - 150	67
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.0	10	10 - 150	100
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.91	10	10 - 150	99
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.62	10	10 - 150	96
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	10	10 - 150	101
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.78	10	10 - 150	88
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.69	10	10 - 150	97
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	12.5	10	10 - 150	125
	(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	10	10 - 150	102
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	10	10 - 150	101
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.3	10	10 - 150	103
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.93	10	10 - 150	89
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.28	9.3	10 - 150	100
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.50	9.46	9 - 150	100
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.6	9.28	10 - 150	114
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	9.34	10 - 150	109
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.32	9.5	10 - 150	77
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.86	9.58	10 - 150	82
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.6	10	10 - 150	106
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.23	10	10 - 150	82
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.41	10	10 - 150	74
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.71	10	10 - 150	97
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.75	10	10 - 150	98
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.75	10	10 - 150	98
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	10	10 - 150	102

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091738.002	Total TRH C10-C36	mg/L	0.05	25	25	80 - 120	100

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091723.002	Benzene	mg/L	0.001	0.023	0.025	60 - 140	93
	Bromodichloromethane	mg/L	0.001	0.024	0.025	60 - 140	97
	Carbon tetrachloride	mg/L	0.001	0.027	0.025	60 - 140	106
	Chlorobenzene	mg/L	0.001	0.026	0.025	60 - 140	105
	Dibromochloromethane	mg/L	0.001	0.027	0.025	60 - 140	108
	1,2-Dichlorobenzene	mg/L	0.001	0.025	0.025	60 - 140	100
	1,4-Dichlorobenzene	mg/L	0.001	0.025	0.025	60 - 140	102
	1,2-Dichloroethane	mg/L	0.001	0.025	0.025	60 - 140	99
	1,1-Dichloroethene	mg/L	0.001	0.022	0.025	60 - 140	88
	cis-1,2-Dichloroethene	mg/L	0.001	0.023	0.025	60 - 140	92
	trans-1,2-Dichloroethene	mg/L	0.001	0.022	0.025	60 - 140	88
	Dichloromethane (methylene chloride)	mg/L	0.01	0.02	0.025	60 - 140	91
	1,2-Dichloropropane	mg/L	0.001	0.024	0.025	60 - 140	95
	Ethylbenzene	mg/L	0.001	0.025	0.025	60 - 140	101
	Styrene	mg/L	0.001	0.024	0.025	60 - 140	94
	Tetrachloroethene	mg/L	0.001	0.026	0.025	60 - 140	106
	Toluene	mg/L	0.001	0.027	0.025	60 - 140	106
	Tribromomethane	mg/L	0.001	0.028	0.025	60 - 140	114
	1,2,4-Trichlorobenzene	mg/L	0.001	0.022	0.025	60 - 140	89



LABORATORY CONTROL SAMPLES

ME373576 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091723.002	1,1,1-Trichloroethane	mg/L	0.001	0.026	0.025	60 - 140	103
	1,1,2-Trichloroethane	mg/L	0.001	0.026	0.025	60 - 140	104
	Trichloroethene	mg/L	0.001	0.023	0.025	60 - 140	91
	Trichloromethane	mg/L	0.001	0.023	0.025	60 - 140	93
	Vinyl Chloride	mg/L	0.001	0.022	0.025	60 - 140	87
	m&p-Xylenes	mg/L	0.001	0.052	0.05	60 - 140	104
	o-Xylene	mg/L	0.001	0.027	0.025	60 - 140	107
	Toluene-d8 (surrogate)	µg/L	-	50.3	50	70 - 130	101
	1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	50.4	50	70 - 130	101
	Dibromofluoromethane (Surrogate)	µg/L	-	48.9	50	70 - 130	98
	p_Bromofluorobenzene (Surrogate)	µg/L	-	53.3	50	70 - 130	107

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091723.002	C6-C9 (P&T)	mg/L	0.01	0.36	0.45	60 - 130	80
	C6-C10 (P&T)	mg/L	0.01	0.38	0.5	60 - 130	77



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

ME373576 R0

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 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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.



SAMPLE RECEIPT ADVICE

PE184086

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 14

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

Samples Received Fri 4/7/2025
Report Due Fri 11/7/2025
SGS Reference **PE184086**

SUBMISSION DETAILS

This is to confirm that 14 samples were received on Friday 4/7/2025. Results are expected to be ready by COB Friday 11/7/2025. Please quote SGS reference PE184086 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Date documentation received	14 Water	Sample counts by matrix	4/7/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17.4-18.9°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4		

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

Organics and PFAS to be subcontracted to SGS Notting Hill
FRP and REDOX received on last day of holding time.
NOx received on second last day of holding time.

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

PE184086

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in	pH in water	SVOC Compounds in Waters by GC-QQQ	TRH in Water MA-30.WW.05 Old & New	USEPA 8260B Additional VOCs in water	USEPA8260B Volatile Organic Compounds in	VPH in Water MA-30
001	SW01-UP	56	1	24	11	12	69	3
002	SW01-DOWN	56	1	24	11	12	69	3
003	SW02-UP	56	1	24	11	12	69	3
004	SW02-DOWN	56	1	24	11	12	69	3
005	SW04-UP	56	1	24	11	12	69	3
006	SW04-DOWN	56	1	24	11	12	69	3
007	SW05-UP	56	1	24	11	12	69	3
008	SW05-DOWN	56	1	24	11	12	69	3
009	SW06-UP	56	1	24	11	12	69	3
010	SW06-DOWN	56	1	24	11	12	69	3
011	SW07-UP	56	1	24	11	12	69	3
012	SW07-DOWN	56	1	24	11	12	69	3
013	SW03-UP	56	1	24	11	12	69	3
014	SW03-DOWN	56	1	24	11	12	69	3

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

PE184086

CLIENT DETAILS

Client WESTERN ENVIRONMENTAL

Project P25.045

SUMMARY OF ANALYSIS

No.	Sample ID	Acidity and Free CO2	Alkalinity	Ammonia Nitrogen by FIA	Calculated Nitrogen Forms - TN, organic N, inorganic	Chloride by Discrete Analyser in Water	Conductivity and TDS by Calculation - Water	Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA	Sulfate in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Dissolved Solids (TDS) in water
001	SW01-UP	1	3	1	1	1	1	2	1	1	1
002	SW01-DOWN	1	3	1	1	1	1	2	1	1	1
003	SW02-UP	1	3	1	1	1	1	2	1	1	1
004	SW02-DOWN	1	3	1	1	1	1	2	1	1	1
005	SW04-UP	1	3	1	1	1	1	2	1	1	1
006	SW04-DOWN	1	3	1	1	1	1	2	1	1	1
007	SW05-UP	1	3	1	1	1	1	2	1	1	1
008	SW05-DOWN	1	3	1	1	1	1	2	1	1	1
009	SW06-UP	1	3	1	1	1	1	2	1	1	1
010	SW06-DOWN	1	3	1	1	1	1	2	1	1	1
011	SW07-UP	1	3	1	1	1	1	2	1	1	1
012	SW07-DOWN	1	3	1	1	1	1	2	1	1	1
013	SW03-UP	1	3	1	1	1	1	2	1	1	1
014	SW03-DOWN	1	3	1	1	1	1	2	1	1	1

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

PE184086

CLIENT DETAILS

Client WESTERN ENVIRONMENTAL

Project P25.045

SUMMARY OF ANALYSIS

No.	Sample ID	Dissolved Oxygen by Membrane Electrode	Filterable Reactive Phosphorus (FRP)	Mercury (dissolved) in Water	Redox Potential (Eh) in water	Total Phosphorus by Kjeldahl Digestion DA in	Trace Metals (Dissolved) in Water by ICPMS TQe	Trace Metals (Total) in Water by ICPMS TQe
001	SW01-UP	3	1	1	2	1	16	2
002	SW01-DOWN	3	1	1	2	1	16	2
003	SW02-UP	3	1	1	2	1	16	2
004	SW02-DOWN	3	1	1	2	1	16	2
005	SW04-UP	3	1	1	2	1	16	2
006	SW04-DOWN	3	1	1	2	1	16	2
007	SW05-UP	3	1	1	2	1	16	2
008	SW05-DOWN	3	1	1	2	1	16	2
009	SW06-UP	3	1	1	2	1	16	2
010	SW06-DOWN	3	1	1	2	1	16	2
011	SW07-UP	3	1	1	2	1	16	2
012	SW07-DOWN	3	1	1	2	1	16	2
013	SW03-UP	3	1	1	2	1	16	2
014	SW03-DOWN	3	1	1	2	1	16	2

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.



STATEMENT OF QA/QC PERFORMANCE

PE184093 R0

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 4

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

SGS Reference **PE184093 R0**
Date Received 04 Jul 2025
Date Reported 15 Jul 2025

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	Mercury (dissolved) in Water	4 items
Analysis Date	Mercury (dissolved) in Water	4 items
Surrogate	SVOC Compounds in Waters by GC-QQQ	1 item
Matrix Spike	Trace Metals (Total) in Water by ICPMS TQe	1 item

SAMPLE SUMMARY

Date documentation received	4 Water	Sample counts by matrix	4/7/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17.4-18.9°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4		

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.

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231564	07 Mar 2025	04 Jul 2025	04 Apr 2025	08 Jul 2025†	04 Apr 2025	11 Jul 2025†

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231658	07 Mar 2025	04 Jul 2025	04 Apr 2025	09 Jul 2025†	04 Apr 2025	09 Jul 2025†
RB01	PE184093.002	LB231658	07 Mar 2025	04 Jul 2025	04 Apr 2025	09 Jul 2025†	04 Apr 2025	09 Jul 2025†
RB02	PE184093.003	LB231658	07 Mar 2025	04 Jul 2025	04 Apr 2025	09 Jul 2025†	04 Apr 2025	09 Jul 2025†
FB/TB01	PE184093.004	LB231658	07 Mar 2025	04 Jul 2025	04 Apr 2025	09 Jul 2025†	04 Apr 2025	09 Jul 2025†

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231561	07 Mar 2025	04 Jul 2025	14 Mar 2025	08 Jul 2025†	14 Mar 2025	08 Jul 2025†

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231616	07 Mar 2025	04 Jul 2025	03 Sep 2025	09 Jul 2025	03 Sep 2025	10 Jul 2025
RB01	PE184093.002	LB231616	07 Mar 2025	04 Jul 2025	03 Sep 2025	09 Jul 2025	03 Sep 2025	10 Jul 2025
RB02	PE184093.003	LB231616	07 Mar 2025	04 Jul 2025	03 Sep 2025	09 Jul 2025	03 Sep 2025	10 Jul 2025
FB/TB01	PE184093.004	LB231616	07 Mar 2025	04 Jul 2025	03 Sep 2025	09 Jul 2025	03 Sep 2025	10 Jul 2025

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231614	07 Mar 2025	04 Jul 2025	03 Sep 2025	09 Jul 2025	03 Sep 2025	10 Jul 2025



SURROGATES

PE184093 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	95
	RB01	PE184093.002	%	10 - 150%	82
	RB02	PE184093.003	%	10 - 150%	93
	FB/TB01	PE184093.004	%	10 - 150%	98
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	96
	RB01	PE184093.002	%	10 - 150%	120
	RB02	PE184093.003	%	10 - 150%	115
	FB/TB01	PE184093.004	%	10 - 150%	130
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	68
	RB01	PE184093.002	%	10 - 150%	83
	RB02	PE184093.003	%	10 - 150%	81
	FB/TB01	PE184093.004	%	10 - 150%	103
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	73
	RB01	PE184093.002	%	10 - 150%	91
	RB02	PE184093.003	%	10 - 150%	92
	FB/TB01	PE184093.004	%	10 - 150%	100
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	99
	RB01	PE184093.002	%	10 - 150%	92
	RB02	PE184093.003	%	10 - 150%	96
	FB/TB01	PE184093.004	%	10 - 150%	108
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	104
	RB01	PE184093.002	%	10 - 150%	59
	RB02	PE184093.003	%	10 - 150%	73
	FB/TB01	PE184093.004	%	10 - 150%	76
(13C3-PFBIS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	99
	RB01	PE184093.002	%	10 - 150%	101
	RB02	PE184093.003	%	10 - 150%	85
	FB/TB01	PE184093.004	%	10 - 150%	103
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	107
	RB01	PE184093.002	%	10 - 150%	102
	RB02	PE184093.003	%	10 - 150%	95
	FB/TB01	PE184093.004	%	10 - 150%	102
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	98
	RB01	PE184093.002	%	10 - 150%	100
	RB02	PE184093.003	%	10 - 150%	102
	FB/TB01	PE184093.004	%	10 - 150%	86
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	102
	RB01	PE184093.002	%	10 - 150%	101
	RB02	PE184093.003	%	10 - 150%	102
	FB/TB01	PE184093.004	%	10 - 150%	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	96
	RB01	PE184093.002	%	10 - 150%	101
	RB02	PE184093.003	%	10 - 150%	99
	FB/TB01	PE184093.004	%	10 - 150%	91
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	95
	RB01	PE184093.002	%	10 - 150%	99
	RB02	PE184093.003	%	10 - 150%	101
	FB/TB01	PE184093.004	%	10 - 150%	96
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	102
	RB01	PE184093.002	%	10 - 150%	100
	RB02	PE184093.003	%	10 - 150%	102
	FB/TB01	PE184093.004	%	10 - 150%	104
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	88
	RB01	PE184093.002	%	10 - 150%	113
	RB02	PE184093.003	%	10 - 150%	93
	FB/TB01	PE184093.004	%	10 - 150%	97
(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	102
	RB01	PE184093.002	%	10 - 150%	105
	RB02	PE184093.003	%	10 - 150%	107
	FB/TB01	PE184093.004	%	10 - 150%	108
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	108



SURROGATES

PE184093 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	RB01	PE184093.002	%	10 - 150%	105
	RB02	PE184093.003	%	10 - 150%	90
	FB/TB01	PE184093.004	%	10 - 150%	103
(13C8-PFOA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	85
	RB01	PE184093.002	%	10 - 150%	118
	RB02	PE184093.003	%	10 - 150%	96
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	FB/TB01	PE184093.004	%	10 - 150%	91
	DUP01	PE184093.001	%	10 - 150%	91
	RB01	PE184093.002	%	10 - 150%	97
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	RB02	PE184093.003	%	10 - 150%	95
	FB/TB01	PE184093.004	%	10 - 150%	95
	DUP01	PE184093.001	%	10 - 150%	55
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	RB01	PE184093.002	%	10 - 150%	124
	RB02	PE184093.003	%	10 - 150%	98
	FB/TB01	PE184093.004	%	10 - 150%	105
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	77
	RB01	PE184093.002	%	10 - 150%	101
	RB02	PE184093.003	%	10 - 150%	93
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	FB/TB01	PE184093.004	%	10 - 150%	94
	DUP01	PE184093.001	%	10 - 150%	56
	RB01	PE184093.002	%	10 - 150%	116
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	RB02	PE184093.003	%	10 - 150%	73
	FB/TB01	PE184093.004	%	10 - 150%	103
	DUP01	PE184093.001	%	10 - 150%	81
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	RB01	PE184093.002	%	10 - 150%	118
	RB02	PE184093.003	%	10 - 150%	91
	FB/TB01	PE184093.004	%	10 - 150%	103
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	85
	RB01	PE184093.002	%	10 - 150%	109
	RB02	PE184093.003	%	10 - 150%	96
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	FB/TB01	PE184093.004	%	10 - 150%	97
	DUP01	PE184093.001	%	10 - 150%	91
	RB01	PE184093.002	%	10 - 150%	112
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	RB02	PE184093.003	%	10 - 150%	79
	FB/TB01	PE184093.004	%	10 - 150%	95
	DUP01	PE184093.001	%	10 - 150%	91

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	DUP01	PE184093.001	%	40 - 130%	91
2-fluorobiphenyl (Surrogate)	DUP01	PE184093.001	%	40 - 130%	76
2-fluorophenol (Surrogate)	DUP01	PE184093.001	%	40 - 130%	105
d14-p-terphenyl (Surrogate)	DUP01	PE184093.001	%	40 - 130%	92
d5-nitrobenzene (Surrogate)	DUP01	PE184093.001	%	40 - 130%	95
d6-phenol (Surrogate)	DUP01	PE184093.001	%	40 - 130%	36 †

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	DUP01	PE184093.001	%	60 - 130%	106
	RB01	PE184093.002	%	60 - 130%	106
	RB02	PE184093.003	%	60 - 130%	102
	FB/TB01	PE184093.004	%	60 - 130%	106
Dibromofluoromethane (Surrogate)	DUP01	PE184093.001	%	60 - 130%	103
	RB01	PE184093.002	%	60 - 130%	103
	RB02	PE184093.003	%	60 - 130%	100
	FB/TB01	PE184093.004	%	60 - 130%	103
p-Bromofluorobenzene (Surrogate)	DUP01	PE184093.001	%	60 - 130%	94
	RB01	PE184093.002	%	60 - 130%	95
	RB02	PE184093.003	%	60 - 130%	91
	FB/TB01	PE184093.004	%	60 - 130%	94
Toluene-d8 (surrogate)	DUP01	PE184093.001	%	60 - 130%	102
	RB01	PE184093.002	%	60 - 130%	104
	RB02	PE184093.003	%	60 - 130%	99



SURROGATES

PE184093 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Toluene-d8 (surrogate)	FB/TB01	PE184093.004	%	60 - 130%	102



METHOD BLANKS

PE184093 R0

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.

Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB231658.001	Mercury	mg/L	0.00005	<0.00005

Trace Metals (Dissolved) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB231616.001	Aluminium	µg/L	5	<5
	Arsenic	µg/L	0.5	<0.5
	Barium	µg/L	0.2	<0.2
	Beryllium	µg/L	0.1	<0.1
	Boron	µg/L	5	<5
	Cadmium	µg/L	0.05	<0.05
	Chromium	µg/L	0.5	<0.5
	Cobalt	µg/L	0.5	<0.5
	Copper	µg/L	0.5	<0.5
	Iron	µg/L	5	<5
	Lead	µg/L	0.5	<0.5
	Manganese	µg/L	1	<1
	Nickel	µg/L	1	<1
	Selenium	µg/L	1	<1
	Vanadium	µg/L	0.5	<0.5
	Zinc	µg/L	1	<1

Trace Metals (Total) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB231614.001	Total Aluminium	µg/L	5	<5

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.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.006	LB231658.014	Mercury	µg/L	0.00005	<0.00005	<0.00005	197	0
PE184086.014	LB231658.024	Mercury	µg/L	0.00005	<0.00005	<0.00005	197	0

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184189.001	LB231616.015	Aluminium	µg/L	5	<5	<5	200	0
		Arsenic	µg/L	0.5	<0.5	<0.5	200	0
		Cadmium	µg/L	0.05	<0.05	<0.05	200	0
		Chromium	µg/L	0.5	<0.5	<0.5	200	0
		Lead	µg/L	0.5	<0.5	<0.5	200	0
		Manganese	µg/L	1	<1	<1	200	0
		Selenium	µg/L	1	<1	<1	200	0
		Zinc	µg/L	1	2	2	78	4

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231614.014	Total Aluminium	µg/L	5	300	330	17	8
		Total Iron	µg/L	5	3600	3600	15	2
PE184125.004	LB231614.026	Total Aluminium	µg/L	5	650	650	16	1
		Total Iron	µg/L	5	6600	6600	15	0



LABORATORY CONTROL SAMPLES

PE184093 R0

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.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Parth)/AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231658.002	Mercury	mg/L	0.00005	0.0028	0.0025	80 - 120	111

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231616.002	Aluminium	µg/L	5	11	10	80 - 120	111
	Arsenic	µg/L	0.5	9.8	10	80 - 120	98
	Barium	µg/L	0.2	10	10	80 - 120	103
	Beryllium	µg/L	0.1	9.8	10	80 - 120	98
	Boron	µg/L	5	10	10	80 - 120	101
	Cadmium	µg/L	0.05	9.8	10	80 - 120	98
	Chromium	µg/L	0.5	10	10	80 - 120	104
	Cobalt	µg/L	0.5	10	10	80 - 120	100
	Copper	µg/L	0.5	10	10	80 - 120	100
	Iron	µg/L	5	10	10	80 - 120	104
	Lead	µg/L	0.5	9.9	10	80 - 120	99
	Manganese	µg/L	1	10	10	80 - 120	98
	Nickel	µg/L	1	11	10	80 - 120	107
	Selenium	µg/L	1	10	10	80 - 120	97
	Vanadium	µg/L	0.5	10	10	80 - 120	101
	Zinc	µg/L	1	11	10	80 - 120	110

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231614.002	Total Aluminium	µg/L	5	10	10	80 - 120	103



MATRIX SPIKES

PE184093 R0

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 (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184093.001	LB231658.004	Mercury	mg/L	0.00005	0.0023	<0.00005	0.0025	115

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184093.001	LB231616.004	Aluminium	µg/L	5	66	56	10	95
		Arsenic	µg/L	0.5	11	0.6	10	106
		Barium	µg/L	0.2	27	17	10	100
		Beryllium	µg/L	0.1	9.4	<0.1	10	94
		Boron	µg/L	5	37	25	10	113
		Cadmium	µg/L	0.05	10	<0.05	10	102
		Chromium	µg/L	0.5	11	<0.5	10	106
		Cobalt	µg/L	0.5	10	<0.5	10	100
		Copper	µg/L	0.5	12	2.4	10	99
		Iron	µg/L	5	110	100	10	107
		Lead	µg/L	0.5	9.6	<0.5	10	95
		Manganese	µg/L	1	10	<1	10	97
		Nickel	µg/L	1	11	<1	10	109
		Selenium	µg/L	1	10	<1	10	103
		Vanadium	µg/L	0.5	12	1.2	10	105
		Zinc	µg/L	1	14	3	10	103

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184085.001	LB231614.004	Total Aluminium	µg/L	5	1900	1890.5	10	179 ⑤
		Total Iron	µg/L	5	2400	2559.9	-	-



MATRIX SPIKE DUPLICATES

PE184093 R0

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 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 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 Low surrogate recovery due to the sample emulsifying during extraction.
- † Refer to relevant report comments for further information.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.

CLIENT DETAILS

Contact **Filip M**
 Client **WESTERN ENVIRONMENTAL**
 Address **PO BOX 437
 LEEDERVILLE WA 6903**

Telephone **61 8 61628980**
 Facsimile **(Not specified)**
 Email **filip.m@westenv.com.au**

Project **P25.045**
 Order Number **P25.045**
 Samples **4**

LABORATORY DETAILS

Manager **Merene Hwang**
 Laboratory **SGS Perth Environmental**
 Address **28 Reid Rd
 Perth Airport WA 6105**

Telephone **(08) 9373 3500**
 Facsimile **(08) 9373 3556**
 Email **au.environmental.perth@sgs.com**

SGS Reference **PE184093 R1**
 Date Received **04 Jul 2025**
 Date Reported **26 Aug 2025**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(898).

8270D: Majority of surrogate recoveries within acceptance criteria.

Organics & PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number 2562 (14420), Report No: ME373575.

Metals: The over range results on ICPMS Method AN318 were reported using ICPOES method AN320.

This report cancels and supersedes the report No. PE184093 R0. dated 26/08/2025 Due to amended sampling date.

SIGNATORIES



Hue Thanh LY
Metals Team Leader



ANALYTICAL REPORT

PE184093 R1

Parameter	Units	LOR	Sample Number	PE184093.001	PE184093.002	PE184093.003	PE184093.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	DUP01	RB01	RB02	FB/TB01

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0026	<0.0005	<0.0005	<0.0005
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0032	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0013	<0.0005	<0.0005	<0.0005
Perfluorooctanoic acid (PFOA)	µg/L	0.0002	0.0016	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0026	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.0034	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	0.0060	<0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	0.015	<0.0060	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	102	101	102	101
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	102	100	102	104
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	95	99	101	96
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	96	101	99	91
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	98	100	102	86
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	91	97	95	95
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	88	113	93	97
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	102	105	107	108
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	99	92	96	108
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	95	82	93	98
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	104	59	73	76
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	99	101	85	103
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	107	102	95	102
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	108	105	90	103
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	96	120	115	130
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	68	83	81	103
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	73	91	92	100
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	85	118	96	91
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	55	124	98	105
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	56	116	73	103
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	85	109	96	97
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	91	112	79	95
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	77	101	93	94
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	81	118	91	103

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025



ANALYTICAL REPORT

PE184093 R1

Parameter	Units	LOR	Sample Number	PE184093.001	PE184093.002	PE184093.003	PE184093.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	DUP01	RB01	RB02	FB/TB01

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	-	-	-
Bromochloromethane	mg/L	0.001	<0.001	-	-	-
Bromodichloromethane	mg/L	0.001	<0.001	-	-	-
Bromomethane	mg/L	0.001	<0.001	-	-	-
n-Butylbenzene	mg/L	0.001	<0.001	-	-	-
s-Butylbenzene	mg/L	0.001	<0.001	-	-	-
t-Butylbenzene	mg/L	0.001	<0.001	-	-	-
Carbon tetrachloride	mg/L	0.001	<0.001	-	-	-
Chlorobenzene	mg/L	0.001	<0.001	-	-	-
Chloroethane	mg/L	0.001	<0.001	-	-	-
Chloromethane	mg/L	0.001	<0.001	-	-	-
2-Chlorotoluene	mg/L	0.001	<0.001	-	-	-
4-Chlorotoluene	mg/L	0.001	<0.001	-	-	-
Dibromochloromethane	mg/L	0.001	<0.001	-	-	-
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	-	-	-
1,2-Dibromoethane	mg/L	0.001	<0.001	-	-	-
Dibromomethane	mg/L	0.001	<0.001	-	-	-
1,2-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,3-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,4-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
Dichlorodifluoromethane	mg/L	0.001	<0.001	-	-	-
1,2-Dichloroethane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloroethane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloroethene	mg/L	0.001	<0.001	-	-	-
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	-	-	-
1,2-Dichloropropane	mg/L	0.001	<0.001	-	-	-
1,3-Dichloropropane	mg/L	0.001	<0.001	-	-	-
2,2-Dichloropropane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloropropene	mg/L	0.001	<0.001	-	-	-
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	-	-	-
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	-	-	-
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	-	-	-
Isopropylbenzene	mg/L	0.001	<0.001	-	-	-
p-Isopropyltoluene	mg/L	0.001	<0.001	-	-	-
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	-	-	-
Styrene	mg/L	0.001	<0.001	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	-	-	-
Tetrachloroethene	mg/L	0.001	<0.001	-	-	-
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	-	-	-
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	-	-	-
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,1,1-Trichloroethane	mg/L	0.001	<0.001	-	-	-
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,1,2-Trichloroethane	mg/L	0.001	<0.001	-	-	-
Trichloroethene	mg/L	0.001	<0.001	-	-	-
Trichlorofluoromethane	mg/L	0.001	<0.001	-	-	-
Trichloromethane	mg/L	0.001	<0.001	-	-	-
1,2,3-Trichloropropane	mg/L	0.001	<0.001	-	-	-
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	-	-	-
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	-	-	-
Vinyl Chloride	mg/L	0.001	<0.001	-	-	-



ANALYTICAL REPORT

PE184093 R1

Parameter	Units	LOR	Sample Number	PE184093.001	PE184093.002	PE184093.003	PE184093.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	DUP01	RB01	RB02	FB/TB01

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	-	-	-
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	-	-	-
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	102	104	99	102
1,2-Dichloroethane_D4 (Surrogate)	%	-	106	106	102	106
Dibromofluoromethane (Surrogate)	%	-	103	103	100	103
p-Bromofluorobenzene (Surrogate)	%	-	94	95	91	94

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 11/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05



ANALYTICAL REPORT

PE184093 R1

Parameter	Units	LOR	Sample Number	PE184093.001	PE184093.002	PE184093.003	PE184093.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	DUP01	RB01	RB02	FB/TB01

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 11/7/2025

Acenaphthene	µg/L	1	<1	-	-	-
Acenaphthylene	µg/L	1	<1	-	-	-
Anthracene	µg/L	1	<1	-	-	-
Benzo(a)anthracene	µg/L	1	<1	-	-	-
Benzo (a) pyrene	µg/L	1	<1	-	-	-
Benzo (b) fluoranthene	µg/L	1	<1	-	-	-
Benzo (ghi) perylene	µg/L	1	<1	-	-	-
Benzo (k) fluoranthene	µg/L	1	<1	-	-	-
Benzo (b+j+k) fluoranthene	µg/L	2	<2	-	-	-
Chrysene	µg/L	1	<1	-	-	-
Dibenz (ah) anthracene	µg/L	1	<1	-	-	-
Fluoranthene	µg/L	1	<1	-	-	-
Fluorene	µg/L	1	<1	-	-	-
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	-	-	-
Naphthalene	µg/L	1	<1	-	-	-
Phenanthrene	µg/L	1	<1	-	-	-
Pyrene	µg/L	1	<1	-	-	-
Total PAHs	µg/L	8	<8	-	-	-
d14-p-terphenyl (Surrogate)	%	0.001	92	-	-	-
d5-nitrobenzene (Surrogate)	%	0.001	95	-	-	-
d6-phenol (Surrogate)	%	0.001	36	-	-	-
2-fluorobiphenyl (Surrogate)	%	0.001	76	-	-	-
2,4,6-tribromophenol (Surrogate)	%	0.001	91	-	-	-
2-fluorophenol (Surrogate)	%	0.001	105	-	-	-

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	<0.02	-	-	-
Acrylonitrile*	mg/L	0.05	<0.05	-	-	-
Carbon disulphide*	mg/L	0.005	<0.005	-	-	-
1-Chloro-2-propene*	mg/L	0.001	<0.001	-	-	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	-	-	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	-	-	-
2-Hexanone*	mg/L	0.001	<0.001	-	-	-
Iodomethane*	mg/L	0.005	<0.005	-	-	-
MEK (2-butanone)	mg/L	0.005	<0.005	-	-	-
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	-	-	-
Methyl tert-butyl ether*	mg/L	0.001	<0.001	-	-	-
Vinyl Acetate*	mg/L	0.01	<0.01	-	-	-

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 9/7/2025

Aluminium, Al	µg/L	5	56	-	-	-
Arsenic, As	µg/L	0.5	0.6	<0.5	<0.5	<0.5
Barium, Ba	µg/L	0.2	17	-	-	-
Beryllium, Be	µg/L	0.1	<0.1	-	-	-
Boron, B	µg/L	5	25	-	-	-
Cadmium, Cd	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
Chromium, Cr	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Cobalt, Co	µg/L	0.5	<0.5	-	-	-
Copper, Cu	µg/L	0.5	2.4	<0.5	<0.5	<0.5
Iron, Fe	µg/L	5	100	-	-	-
Lead, Pb	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Manganese, Mn	µg/L	1	<1	-	-	-
Nickel, Ni	µg/L	1	<1	<1	<1	<1
Selenium, Se	µg/L	1	<1	-	-	-
Vanadium, V	µg/L	0.5	1.2	-	-	-
Zinc, Zn	µg/L	1	3	<1	<1	<1

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 9/7/2025



ANALYTICAL REPORT

PE184093 R1

Parameter	Units	LOR	Sample Number	PE184093.001	PE184093.002	PE184093.003	PE184093.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	DUP01	RB01	RB02	FB/TB01

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 9/7/2025 (continued)

Mercury, Hg	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
-------------	------	---------	----------	----------	----------	----------

pH in water Method: AN101 Tested: -

pH**	pH Units	-	-	-	-	-
------	----------	---	---	---	---	---

Conductivity and TDS by Calculation - Water Method: AN106 Tested: -

Conductivity @ 25 C	µS/cm	2	-	-	-	-
---------------------	-------	---	---	---	---	---

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 8/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	-	-	-	-
---	------	----	---	---	---	---

Acidity and Free CO2 Method: AN140 Tested: -

Acidity to pH 8.3	mg CaCO3/L	5	-	-	-	-
-------------------	------------	---	---	---	---	---

Alkalinity Method: AN135 Tested: -

Total Alkalinity as CaCO3	mg/L	5	-	-	-	-
Carbonate Alkalinity as CO3	mg/L	1	-	-	-	-
Bicarbonate Alkalinity as HCO3	mg/L	5	-	-	-	-



ANALYTICAL REPORT

PE184093 R1

			Sample Number	PE184093.001	PE184093.002	PE184093.003	PE184093.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	DUP01	RB01	RB02	FB/TB01
Parameter	Units	LOR					

Chloride by Discrete Analyser in Water Method: AN274 Tested: -

Chloride, Cl	mg/L	1	-	-	-	-
--------------	------	---	---	---	---	---

Sulfate in water Method: AN275 Tested: -

Sulfate, SO ₄	mg/L	1	-	-	-	-
--------------------------	------	---	---	---	---	---

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: -

Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	-	-	-	-
--	------	------	---	---	---	---

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: -

Total Kjeldahl Nitrogen	mg/L	0.05	-	-	-	-
-------------------------	------	------	---	---	---	---

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: -

Total Nitrogen (calc)	mg/L	0.05	-	-	-	-
-----------------------	------	------	---	---	---	---

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA Method: AN258 Tested: -

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	-	-	-	-
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	-	-	-	-



ANALYTICAL REPORT

PE184093 R1

Parameter	Units	LOR	Sample Number	PE184093.001	PE184093.002	PE184093.003	PE184093.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	DUP01	RB01	RB02	FB/TB01

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 8/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	-	-	-	-
-------------------------------------	------	-------	---	---	---	---

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293 Tested: -

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	-	-	-	-
--	------	------	---	---	---	---

Redox Potential (Eh) in water Method: AN240 Tested: -

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	-	-	-	-
Temperature of Sample*	°C	0.1	-	-	-	-

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: -

Temperature*	°C	-	-	-	-	-
Dissolved Oxygen**	mg/L	0.5	-	-	-	-
Dissolved Oxygen (percent saturation)**	%	1	-	-	-	-

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 9/7/2025

Total Aluminium, Al	µg/L	5	810	-	-	-
Total Iron, Fe	µg/L	5	380	-	-	-

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.

Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Mercury, Hg	LB231658	mg/L	0.00005	<0.00005	0%	111%	115%

Trace Metals (Dissolved) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Aluminium, Al	LB231616	µg/L	5	<5	0%	111%	95%
Arsenic, As	LB231616	µg/L	0.5	<0.5	0%	98%	106%
Barium, Ba	LB231616	µg/L	0.2	<0.2		103%	100%
Beryllium, Be	LB231616	µg/L	0.1	<0.1		98%	94%
Boron, B	LB231616	µg/L	5	<5		101%	113%
Cadmium, Cd	LB231616	µg/L	0.05	<0.05	0%	98%	102%
Chromium, Cr	LB231616	µg/L	0.5	<0.5	0%	104%	106%
Cobalt, Co	LB231616	µg/L	0.5	<0.5		100%	100%
Copper, Cu	LB231616	µg/L	0.5	<0.5		100%	99%
Iron, Fe	LB231616	µg/L	5	<5		104%	107%
Lead, Pb	LB231616	µg/L	0.5	<0.5	0%	99%	95%
Manganese, Mn	LB231616	µg/L	1	<1	0%	98%	97%
Nickel, Ni	LB231616	µg/L	1	<1		107%	109%
Selenium, Se	LB231616	µg/L	1	<1	0%	97%	103%
Vanadium, V	LB231616	µg/L	0.5	<0.5		101%	105%
Zinc, Zn	LB231616	µg/L	1	<1	4%	110%	103%

Trace Metals (Total) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN022/AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Total Aluminium, Al	LB231614	µg/L	5	<5	1 - 8%	103%	179%
Total Iron, Fe	LB231614	µg/L	5	<5	0 - 2%	NA	NA

METHOD

METHODOLOGY SUMMARY

AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
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 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. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN140	Acidity by Titration: The water sample is titrated with sodium hydroxide to designated pH end point. In a sample containing only carbon dioxide, bicarbonates and carbonates, titration to pH 8.3 at 25°C corresponds to stoichiometric neutralisation of carbonic acid to bicarbonate. Method reference APHA 2310 B.
AN176	Dissolved Oxygen: DO can also be measured directly using an oxygen permeable membrane electrode and meter. Under steady state conditions the current is directly proportional to the DO conc. DO can also be measured via Luminescent dissolved oxygen probes (LDO) which also operates using an oxygen permeable membrane with an oxygen sensitive luminescent dye making up the second probe layer. The presence of oxygen causes changes in the lifetime and intensity of luminescence, which are then quantified. Zero headspace is required for sample analysis, if headspace is observed report comment will be recorded. Reference APHA 4500-C, G & O.
AN240	Oxidation-Reduction Potential (Eh): Electrometric measurements are made by potentiometric determination of electron activity (or intensity) with an inert indicator electrode and a suitable reference electrode. At redox equilibrium, the potential difference between the two electrodes equals the redox potential of the system. This measurement is then corrected for the difference between the potential of the reference electrode and that of the standard hydrogen electrode.
AN258	Nitrate and Nitrite by FIA: In an acidic medium, nitrate is reduced quantitatively to nitrite by cadmium metal. This nitrite plus any original nitrite is determined as an intense red-pink azo dye at 540 nm following diazotisation with sulphanilamide and subsequent coupling with N-(1-naphthyl) ethylenediamine dihydrochloride. Without the cadmium reduction only the original nitrite is determined. Reference APHA 4500-NO3- F.
AN262	Ammonia in solution is reacted with o-phthalaldehyde (OPA) to form a fluorescent compound. The reaction product is detected by a fluorimeter and the response is measured via FIA using a photomultiplier detector. The response is directly proportional to the concentration of ammonia in the sample.

METHOD

METHODOLOGY SUMMARY

AN274	Chloride by Discrete Analyse: Chloride reacts with mercuric thiocyanate forming a mercuric chloride complex. In the presence of ferric iron, highly coloured ferric thiocyanate is formed which is proportional to the chloride concentration. Reference APHA 4500CI-
AN275	Sulfate by Discrete Analyse: sulfate is precipitated in an acidic medium with barium chloride. The resulting turbidity is measured photometrically at 405nm and compared with standard calibration solutions to determine the sulfate concentration in the sample. Reference APHA 4500-SO42-. Internal reference AN275.
AN278	Filterable Reactive Phosphorus by DA (determined on filtered sample): Orthophosphate reacts with ammonium molybdate (Mo VI) and potassium antimonyl tartrate (Sb III) in acid medium to form an antimony-phosphomolybdate complex. This complex is subsequently reduced with ascorbic acid to form a blue colour and the absorbance is read at 880 nm. The sensitivity of the automated method is 10-20 times that of the macro method. Reference APHA 4500-P F
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digester with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.
AN281/292	Calculation of total nitrogen and organic nitrogen.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: 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.
AN318	Determination of elements at trace level in waters by ICP-MS technique, referenced to USEPA 6020B and USEPA 200.8 (5.4).
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.
EPA 8260B-01	This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).
EPA8260B	Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

METHOD

METHODOLOGY SUMMARY

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40.

The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions".

Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS)

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC–QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting .

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

PE184093 R1

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 4

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

SGS Reference **PE184093 R1**
Date Received 04 Jul 2025
Date Reported 26 Aug 2025

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:

Surrogate	SVOC Compounds in Waters by GC-QQQ	1 item
Matrix Spike	Trace Metals (Total) in Water by ICPMS TQe	1 item

SAMPLE SUMMARY

Date documentation received	4 Water	Sample counts by matrix	4/7/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17.4-18.9°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4		

SGS Australia Pty Ltd
ABN 44 000 964 278

Environment, Health and
Safety

28 Reid Rd Perth Airport WA 6105
PO Box 32 Welshpool WA 6983

Australia t +61 8 9373 3500
Australia f +61 8 9373 3556

www.sgs.com.au



HOLDING TIME SUMMARY

PE184093 R1

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.

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231564	03 Jul 2025	04 Jul 2025	31 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
RB01	PE184093.002	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
RB02	PE184093.003	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025
FB/TB01	PE184093.004	LB231658	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	09 Jul 2025

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231561	03 Jul 2025	04 Jul 2025	10 Jul 2025	08 Jul 2025	10 Jul 2025	08 Jul 2025

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231616	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
RB01	PE184093.002	LB231616	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
RB02	PE184093.003	LB231616	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025
FB/TB01	PE184093.004	LB231616	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	PE184093.001	LB231614	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	10 Jul 2025



SURROGATES

PE184093 R1

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	95
	RB01	PE184093.002	%	10 - 150%	82
	RB02	PE184093.003	%	10 - 150%	93
	FB/TB01	PE184093.004	%	10 - 150%	98
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	96
	RB01	PE184093.002	%	10 - 150%	120
	RB02	PE184093.003	%	10 - 150%	115
	FB/TB01	PE184093.004	%	10 - 150%	130
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	68
	RB01	PE184093.002	%	10 - 150%	83
	RB02	PE184093.003	%	10 - 150%	81
	FB/TB01	PE184093.004	%	10 - 150%	103
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	73
	RB01	PE184093.002	%	10 - 150%	91
	RB02	PE184093.003	%	10 - 150%	92
	FB/TB01	PE184093.004	%	10 - 150%	100
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	99
	RB01	PE184093.002	%	10 - 150%	92
	RB02	PE184093.003	%	10 - 150%	96
	FB/TB01	PE184093.004	%	10 - 150%	108
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	104
	RB01	PE184093.002	%	10 - 150%	59
	RB02	PE184093.003	%	10 - 150%	73
	FB/TB01	PE184093.004	%	10 - 150%	76
(13C3-PFBs) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	99
	RB01	PE184093.002	%	10 - 150%	101
	RB02	PE184093.003	%	10 - 150%	85
	FB/TB01	PE184093.004	%	10 - 150%	103
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	107
	RB01	PE184093.002	%	10 - 150%	102
	RB02	PE184093.003	%	10 - 150%	95
	FB/TB01	PE184093.004	%	10 - 150%	102
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	98
	RB01	PE184093.002	%	10 - 150%	100
	RB02	PE184093.003	%	10 - 150%	102
	FB/TB01	PE184093.004	%	10 - 150%	86
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	102
	RB01	PE184093.002	%	10 - 150%	101
	RB02	PE184093.003	%	10 - 150%	102
	FB/TB01	PE184093.004	%	10 - 150%	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	96
	RB01	PE184093.002	%	10 - 150%	101
	RB02	PE184093.003	%	10 - 150%	99
	FB/TB01	PE184093.004	%	10 - 150%	91
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	95
	RB01	PE184093.002	%	10 - 150%	99
	RB02	PE184093.003	%	10 - 150%	101
	FB/TB01	PE184093.004	%	10 - 150%	96
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	102
	RB01	PE184093.002	%	10 - 150%	100
	RB02	PE184093.003	%	10 - 150%	102
	FB/TB01	PE184093.004	%	10 - 150%	104
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	88
	RB01	PE184093.002	%	10 - 150%	113
	RB02	PE184093.003	%	10 - 150%	93
	FB/TB01	PE184093.004	%	10 - 150%	97
(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	102
	RB01	PE184093.002	%	10 - 150%	105
	RB02	PE184093.003	%	10 - 150%	107
	FB/TB01	PE184093.004	%	10 - 150%	108
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	108



SURROGATES

PE184093 R1

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	RB01	PE184093.002	%	10 - 150%	105
	RB02	PE184093.003	%	10 - 150%	90
	FB/TB01	PE184093.004	%	10 - 150%	103
(13C8-PFOA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	85
	RB01	PE184093.002	%	10 - 150%	118
	RB02	PE184093.003	%	10 - 150%	96
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	FB/TB01	PE184093.004	%	10 - 150%	91
	DUP01	PE184093.001	%	10 - 150%	91
	RB01	PE184093.002	%	10 - 150%	97
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	RB02	PE184093.003	%	10 - 150%	95
	FB/TB01	PE184093.004	%	10 - 150%	95
	DUP01	PE184093.001	%	10 - 150%	55
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	RB01	PE184093.002	%	10 - 150%	124
	RB02	PE184093.003	%	10 - 150%	98
	FB/TB01	PE184093.004	%	10 - 150%	105
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	77
	RB01	PE184093.002	%	10 - 150%	101
	RB02	PE184093.003	%	10 - 150%	93
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	FB/TB01	PE184093.004	%	10 - 150%	94
	DUP01	PE184093.001	%	10 - 150%	56
	RB01	PE184093.002	%	10 - 150%	116
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	RB02	PE184093.003	%	10 - 150%	73
	FB/TB01	PE184093.004	%	10 - 150%	103
	DUP01	PE184093.001	%	10 - 150%	81
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	RB01	PE184093.002	%	10 - 150%	118
	RB02	PE184093.003	%	10 - 150%	91
	FB/TB01	PE184093.004	%	10 - 150%	103
(D5-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	DUP01	PE184093.001	%	10 - 150%	85
	RB01	PE184093.002	%	10 - 150%	109
	RB02	PE184093.003	%	10 - 150%	96
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	FB/TB01	PE184093.004	%	10 - 150%	97
	DUP01	PE184093.001	%	10 - 150%	91
	RB01	PE184093.002	%	10 - 150%	112
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	RB02	PE184093.003	%	10 - 150%	79
	FB/TB01	PE184093.004	%	10 - 150%	95
	DUP01	PE184093.001	%	10 - 150%	91

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	DUP01	PE184093.001	%	40 - 130%	91
2-fluorobiphenyl (Surrogate)	DUP01	PE184093.001	%	40 - 130%	76
2-fluorophenol (Surrogate)	DUP01	PE184093.001	%	40 - 130%	105
d14-p-terphenyl (Surrogate)	DUP01	PE184093.001	%	40 - 130%	92
d5-nitrobenzene (Surrogate)	DUP01	PE184093.001	%	40 - 130%	95
d6-phenol (Surrogate)	DUP01	PE184093.001	%	40 - 130%	36 †

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	DUP01	PE184093.001	%	60 - 130%	106
	RB01	PE184093.002	%	60 - 130%	106
	RB02	PE184093.003	%	60 - 130%	102
	FB/TB01	PE184093.004	%	60 - 130%	106
Dibromofluoromethane (Surrogate)	DUP01	PE184093.001	%	60 - 130%	103
	RB01	PE184093.002	%	60 - 130%	103
	RB02	PE184093.003	%	60 - 130%	100
	FB/TB01	PE184093.004	%	60 - 130%	103
p-Bromofluorobenzene (Surrogate)	DUP01	PE184093.001	%	60 - 130%	94
	RB01	PE184093.002	%	60 - 130%	95
	RB02	PE184093.003	%	60 - 130%	91
	FB/TB01	PE184093.004	%	60 - 130%	94
Toluene-d8 (surrogate)	DUP01	PE184093.001	%	60 - 130%	102
	RB01	PE184093.002	%	60 - 130%	104
	RB02	PE184093.003	%	60 - 130%	99



SURROGATES

PE184093 R1

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Toluene-d8 (surrogate)	FB/TB01	PE184093.004	%	60 - 130%	102



METHOD BLANKS

PE184093 R1

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.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB231658.001	Mercury, Hg	mg/L	0.00005	<0.00005

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB231616.001	Aluminium, Al	µg/L	5	<5
	Arsenic, As	µg/L	0.5	<0.5
	Barium, Ba	µg/L	0.2	<0.2
	Beryllium, Be	µg/L	0.1	<0.1
	Boron, B	µg/L	5	<5
	Cadmium, Cd	µg/L	0.05	<0.05
	Chromium, Cr	µg/L	0.5	<0.5
	Cobalt, Co	µg/L	0.5	<0.5
	Copper, Cu	µg/L	0.5	<0.5
	Iron, Fe	µg/L	5	<5
	Lead, Pb	µg/L	0.5	<0.5
	Manganese, Mn	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Selenium, Se	µg/L	1	<1
	Vanadium, V	µg/L	0.5	<0.5
	Zinc, Zn	µg/L	1	<1

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB231614.001	Total Aluminium, Al	µg/L	5	<5

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.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.006	LB231658.014	Mercury, Hg	µg/L	0.00005	<0.00005	<0.00005	197	0
PE184086.014	LB231658.024	Mercury, Hg	µg/L	0.00005	<0.00005	<0.00005	197	0

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184189.001	LB231616.015	Aluminium, Al	µg/L	5	<5	<5	200	0
		Arsenic, As	µg/L	0.5	<0.5	<0.5	200	0
		Cadmium, Cd	µg/L	0.05	<0.05	<0.05	200	0
		Chromium, Cr	µg/L	0.5	<0.5	<0.5	200	0
		Lead, Pb	µg/L	0.5	<0.5	<0.5	200	0
		Manganese, Mn	µg/L	1	<1	<1	200	0
		Selenium, Se	µg/L	1	<1	<1	200	0
		Zinc, Zn	µg/L	1	2	2	78	4

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231614.014	Total Aluminium, Al	µg/L	5	300	330	17	8
		Total Iron, Fe	µg/L	5	3600	3600	15	2
PE184125.004	LB231614.026	Total Aluminium, Al	µg/L	5	650	650	16	1
		Total Iron, Fe	µg/L	5	6600	6600	15	0



LABORATORY CONTROL SAMPLES

PE184093 R1

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.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Parth)/AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231658.002	Mercury, Hg	mg/L	0.00005	0.0028	0.0025	80 - 120	111

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231616.002	Aluminium, Al	µg/L	5	11	10	80 - 120	111
	Arsenic, As	µg/L	0.5	9.8	10	80 - 120	98
	Barium, Ba	µg/L	0.2	10	10	80 - 120	103
	Beryllium, Be	µg/L	0.1	9.8	10	80 - 120	98
	Boron, B	µg/L	5	10	10	80 - 120	101
	Cadmium, Cd	µg/L	0.05	9.8	10	80 - 120	98
	Chromium, Cr	µg/L	0.5	10	10	80 - 120	104
	Cobalt, Co	µg/L	0.5	10	10	80 - 120	100
	Copper, Cu	µg/L	0.5	10	10	80 - 120	100
	Iron, Fe	µg/L	5	10	10	80 - 120	104
	Lead, Pb	µg/L	0.5	9.9	10	80 - 120	99
	Manganese, Mn	µg/L	1	10	10	80 - 120	98
	Nickel, Ni	µg/L	1	11	10	80 - 120	107
	Selenium, Se	µg/L	1	10	10	80 - 120	97
	Vanadium, V	µg/L	0.5	10	10	80 - 120	101
	Zinc, Zn	µg/L	1	11	10	80 - 120	110

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231614.002	Total Aluminium, Al	µg/L	5	10	10	80 - 120	103

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 (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Parth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184093.001	LB231658.004	Mercury, Hg	mg/L	0.00005	0.0023	<0.00005	0.0025	115

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184093.001	LB231616.004	Aluminium, Al	µg/L	5	66	56	10	95
		Arsenic, As	µg/L	0.5	11	0.6	10	106
		Barium, Ba	µg/L	0.2	27	17	10	100
		Beryllium, Be	µg/L	0.1	9.4	<0.1	10	94
		Boron, B	µg/L	5	37	25	10	113
		Cadmium, Cd	µg/L	0.05	10	<0.05	10	102
		Chromium, Cr	µg/L	0.5	11	<0.5	10	106
		Cobalt, Co	µg/L	0.5	10	<0.5	10	100
		Copper, Cu	µg/L	0.5	12	2.4	10	99
		Iron, Fe	µg/L	5	110	100	10	107
		Lead, Pb	µg/L	0.5	9.6	<0.5	10	95
		Manganese, Mn	µg/L	1	10	<1	10	97
		Nickel, Ni	µg/L	1	11	<1	10	109
		Selenium, Se	µg/L	1	10	<1	10	103
		Vanadium, V	µg/L	0.5	12	1.2	10	105
		Zinc, Zn	µg/L	1	14	3	10	103

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184085.001	LB231614.004	Total Aluminium, Al	µg/L	5	1900	1900	10	179 ⑤
		Total Iron, Fe	µg/L	5	2400	2600	-	-



MATRIX SPIKE DUPLICATES

PE184093 R1

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 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 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 Low surrogate recovery due to the sample emulsifying during extraction.
- † Refer to relevant report comments for further information.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.

[The following text is heavily obscured by horizontal black bars.]

Received: 04-Jul-2025



Page 4 of 4

[illegible]

REGISTRATION DETAILS Bottle Map

Doc. No. PF-AU-ENVLTS-PAP-QU101
Rev. No. 8.0 DRAFT
Date 08/03/2022

Page

of

Sample Numbers	1L	500mL	250mL	125mL	125mL UF/F	1L	500mL	100mL	40mL	40mL	250mL	500mL	500mL	250mL	125mL	1L	250mL	125mL	Ziplock Bag/ Other	Job Number:
	Plastic	Plastic	Plastic	Plastic	Plastic	Amber	Amber	Amber	Glass Vial	Glass Vial	Plastic	Plastic	Amber	Plastic	Plastic	Plastic	Glass Jar	Glass Jar		PE 184093
	Green	Green	Green	Green	Red	Green	Green	Green	VOC	HAA	Purple	Blue	Orange	Orange	Brown	Yellow			60mL PEAS	# of Eskies:
1					11			1	11										1	Temp (°C):
2					11			1	11										1	☐ IB:
3					11			1	11										1	☐ ICE:
4					11			1	11										1	☒ None: 17-4-18-9
																				Tray Numbers:
																				W-89 SHT
																				MF-91
																				MA-44 NH

Registration comments by local team (For GBS):

3 / 7 / 2025

5:00

COC RECEIVED 4/7/2025

8:00am

Pre-registration/ unpacking comments for local team:

MARK DO ON BOTTLE SAMPLE # 1

SAMPLE #1, 1L GREEN BOTTLE NOT RECEIVED.

☐ Green dot on metal bottle

Is this a Boomerang Esky?	Y or N	Boomerang Due Date:	Pre-registered By: PR	Unpacked By: PR
---------------------------	--------	---------------------	-----------------------	-----------------



ANALYTICAL REPORT



Accreditation No. 2562

CLIENT DETAILS

Contact SGS Environmental Perth
Client SGS I&E EHS PERTH AIRPORT
Address 28 Reid Road
Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
Facsimile +61 (0)8 9373 3556
Email au.environmental.subcon@sgs.com

Project **P25.045**
Order Number **PE184093**
Samples 4

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 **ME373575 R0**
Date Received 08 Jul 2025
Date Reported 11 Jul 2025

COMMENTS

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

8270D: Majority of surrogate recoveries within acceptance criteria.

SIGNATORIES

Adam ATKINSON
Australian Chemistry Manager

Nicholas HORA
Senior Laboratory Technician

Susan WAN
Senior Chemist



ANALYTICAL REPORT

ME373575 R0

Parameter	Units	LOR	Sample Number	ME373575.001	ME373575.002	ME373575.003	ME373575.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
			Sample Name	PE184093.001	PE184093.002	PE184093.003	PE184093.004

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	-	-	-
Bromochloromethane	mg/L	0.001	<0.001	-	-	-
Bromodichloromethane	mg/L	0.001	<0.001	-	-	-
Bromomethane	mg/L	0.001	<0.001	-	-	-
n-Butylbenzene	mg/L	0.001	<0.001	-	-	-
s-Butylbenzene	mg/L	0.001	<0.001	-	-	-
t-Butylbenzene	mg/L	0.001	<0.001	-	-	-
Carbon tetrachloride	mg/L	0.001	<0.001	-	-	-
Chlorobenzene	mg/L	0.001	<0.001	-	-	-
Chloroethane	mg/L	0.001	<0.001	-	-	-
Chloromethane	mg/L	0.001	<0.001	-	-	-
2-Chlorotoluene	mg/L	0.001	<0.001	-	-	-
4-Chlorotoluene	mg/L	0.001	<0.001	-	-	-
Dibromochloromethane	mg/L	0.001	<0.001	-	-	-
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	-	-	-
1,2-Dibromoethane	mg/L	0.001	<0.001	-	-	-
Dibromomethane	mg/L	0.001	<0.001	-	-	-
1,2-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,3-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,4-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
Dichlorodifluoromethane	mg/L	0.001	<0.001	-	-	-
1,2-Dichloroethane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloroethane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloroethene	mg/L	0.001	<0.001	-	-	-
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	-	-	-
1,2-Dichloropropane	mg/L	0.001	<0.001	-	-	-
1,3-Dichloropropane	mg/L	0.001	<0.001	-	-	-
2,2-Dichloropropane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloropropene	mg/L	0.001	<0.001	-	-	-
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	-	-	-
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	-	-	-
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	-	-	-
Isopropylbenzene	mg/L	0.001	<0.001	-	-	-
p-Isopropyltoluene	mg/L	0.001	<0.001	-	-	-
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	-	-	-
Styrene	mg/L	0.001	<0.001	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	-	-	-
Tetrachloroethene	mg/L	0.001	<0.001	-	-	-
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	-	-	-
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	-	-	-
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,1,1-Trichloroethane	mg/L	0.001	<0.001	-	-	-
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,1,2-Trichloroethane	mg/L	0.001	<0.001	-	-	-
Trichloroethene	mg/L	0.001	<0.001	-	-	-
Trichlorofluoromethane	mg/L	0.001	<0.001	-	-	-
Trichloromethane	mg/L	0.001	<0.001	-	-	-
1,2,3-Trichloropropane	mg/L	0.001	<0.001	-	-	-
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	-	-	-
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	-	-	-
Vinyl Chloride	mg/L	0.001	<0.001	-	-	-



ANALYTICAL REPORT

ME373575 R0

Parameter	Units	LOR	Sample Number	ME373575.001	ME373575.002	ME373575.003	ME373575.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
			Sample Name	PE184093.001	PE184093.002	PE184093.003	PE184093.004

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 8/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	-	-	-
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	-	-	-
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	102	104	99	102
1,2-Dichloroethane_D4 (Surrogate)	%	-	106	106	102	106
Dibromofluoromethane (Surrogate)	%	-	103	103	100	103
p_Bromofluorobenzene (Surrogate)	%	-	94	95	91	94

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 8/7/2025

Acetone*	mg/L	0.02	<0.02	-	-	-
Acrylonitrile*	mg/L	0.05	<0.05	-	-	-
Carbon disulphide*	mg/L	0.005	<0.005	-	-	-
1-Chloro-2-propene*	mg/L	0.001	<0.001	-	-	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	-	-	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	-	-	-
2-Hexanone*	mg/L	0.001	<0.001	-	-	-
Iodomethane*	mg/L	0.005	<0.005	-	-	-
MEK (2-butanone)	mg/L	0.005	<0.005	-	-	-
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	-	-	-
Methyl tert-butyl ether*	mg/L	0.001	<0.001	-	-	-
Vinyl Acetate*	mg/L	0.01	<0.01	-	-	-

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 9/7/2025

Acenaphthene	µg/L	1	<1	-	-	-
Acenaphthylene	µg/L	1	<1	-	-	-
Anthracene	µg/L	1	<1	-	-	-
Benzo(a)anthracene	µg/L	1	<1	-	-	-
Benzo (a) pyrene	µg/L	1	<1	-	-	-
Benzo (b) fluoranthene	µg/L	1	<1	-	-	-
Benzo (ghi) perylene	µg/L	1	<1	-	-	-
Benzo (k) fluoranthene	µg/L	1	<1	-	-	-
Benzo (b+j+k) fluoranthene	µg/L	2	<2	-	-	-
Chrysene	µg/L	1	<1	-	-	-
Dibenz (ah) anthracene	µg/L	1	<1	-	-	-
Fluoranthene	µg/L	1	<1	-	-	-
Fluorene	µg/L	1	<1	-	-	-
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	-	-	-
Naphthalene	µg/L	1	<1	-	-	-
Phenanthrene	µg/L	1	<1	-	-	-
Pyrene	µg/L	1	<1	-	-	-
d14-p-terphenyl (Surrogate)	%	0.001	92	-	-	-
d5-nitrobenzene (Surrogate)	%	0.001	95	-	-	-
d6-phenol (Surrogate)	%	0.001	36	-	-	-
2-fluorobiphenyl (Surrogate)	%	0.001	76	-	-	-
2,4,6-tribromophenol (Surrogate)	%	0.001	91	-	-	-
2-fluorophenol (Surrogate)	%	0.001	105	-	-	-

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0026	<0.0005	<0.0005	<0.0005
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0032	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0013	<0.0005	<0.0005	<0.0005
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0016	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373575 R0

Parameter	Units	LOR	Sample Number	ME373575.001	ME373575.002	ME373575.003	ME373575.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
			Sample Name	PE184093.001	PE184093.002	PE184093.003	PE184093.004

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 9/7/2025 (continued)

Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0026	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.0034	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	0.0060	<0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	0.015	<0.0060	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	102	101	102	101
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	102	100	102	104
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	95	99	101	96
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	96	101	99	91
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	98	100	102	86
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	91	97	95	95
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	88	113	93	97
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	102	105	107	108
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	99	92	96	108
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	95	82	93	98
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	104	59	73	76
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	99	101	85	103
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	107	102	95	102
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	108	105	90	103
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	96	120	115	130
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	68	83	81	103
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	73	91	92	100
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	85	118	96	91
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	55	124	98	105
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	56	116	73	103
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	85	109	96	97
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	91	112	79	95
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	77	101	93	94
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	81	118	91	103

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands



ANALYTICAL REPORT

ME373575 R0

			Sample Number	ME373575.001	ME373575.002	ME373575.003	ME373575.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
			Sample Name	PE184093.001	PE184093.002	PE184093.003	PE184093.004
Parameter	Units	LOR					

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025 (continued)

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

VPH in Water MA-30 Method: MA30-VPH Tested: 8/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01



QC SUMMARY

ME373575 R0

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB091732	µg/L	0.0005	<0.0005	2 - 14%	NA
Perfluoropentanoic acid (PFPeA)	LB091732	µg/L	0.0005	<0.0005	0 - 13%	NA
Perfluorohexanoic acid (PFHxA)	LB091732	µg/L	0.0005	<0.0005	3 - 5%	NA
Perfluoroheptanoic acid (PFHpA)	LB091732	µg/L	0.0005	<0.0005	7%	75%
Perfluorooctanoic Acid (PFOA)	LB091732	µg/L	0.0002	<0.0002	0 - 25%	93%
Perfluorononanoic acid (PFNA)	LB091732	µg/L	0.001	<0.001	0%	79%
Perfluorodecanoic acid (PFDA)	LB091732	µg/L	0.001	<0.001	0%	71%
Perfluoroundecanoic acid (PFUnA)	LB091732	µg/L	0.001	<0.001	0%	75%
Perfluorododecanoic acid (PFDoA)	LB091732	µg/L	0.001	<0.001	0%	82%
Perfluorotridecanoic acid (PFTriDA)	LB091732	µg/L	0.001	<0.001	0%	69%
Perfluorotetradecanoic acid (PFTeDA)	LB091732	µg/L	0.001	<0.001	0%	75%
Perfluorohexadecanoic acid (PFHxDA)	LB091732	µg/L	0.002	<0.002	0%	NA
Perfluorobutane sulfonate (PFBS)	LB091732	µg/L	0.001	<0.001	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB091732	µg/L	0.001	<0.001	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB091732	µg/L	0.0002	<0.0002	39 - 46%	NA
Perfluoroheptane sulfonate (PFHpS)	LB091732	µg/L	0.0002	<0.0002	0%	NA
Perfluorooctane sulfonate (PFOS)	LB091732	µg/L	0.0002	<0.0002	0 - 40%	68%
Sum of PFHxS and PFOS	LB091732	µg/L	0.0002	<0.0002	40 - 46%	NA
Perfluorononane sulfonate (PFNS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
Perfluorodecane sulfonate (PFDS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB091732	µg/L	0.0005	<0.0005	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB091732	µg/L	0.002	<0.002	0%	67%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB091732	µg/L	0.0025	<0.0025	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB091732	µg/L	0.0025	<0.0025	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N_MeFOSAA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB091732	µg/L	0.0025	<0.0025	0%	NA
Total PFAS (n=30)	LB091732	µg/L	0.006	<0.0060		
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	101%	4%	100%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	111%	0 - 2%	99%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	101%	3%	96%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	100%	1%	101%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	98%	10 - 16%	88%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	100%	4 - 5%	97%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	93%	7 - 14%	125%
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	91%	2 - 4%	102%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	81%	6 - 7%	101%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	61%	0 - 9%	103%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	48%	3 - 9%	89%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	94%	1 - 13%	100%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	97%	8 - 26%	100%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	122%	6 - 9%	114%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	107%	0 - 4%	109%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	75%	0 - 4%	77%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	83%	2 - 14%	82%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	99%	17 - 24%	106%
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	74%	26 - 70%	82%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	59%	28 - 41%	74%
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	88%	2 - 25%	97%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	90%	15 - 19%	98%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	93%	6 - 15%	98%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB091732	%	-	100%	5 - 12%	102%

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.

SVOC Compounds in Waters by GC-QQQ Method: MA8270

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Acenaphthene	LB091736	µg/L	1	<1	83%
Acenaphthylene	LB091736	µg/L	1	<1	NA
Anthracene	LB091736	µg/L	1	<1	NA
Benzo(a)anthracene	LB091736	µg/L	1	<1	NA
Benzo (a) pyrene	LB091736	µg/L	1	<1	NA
Benzo (b) fluoranthene	LB091736	µg/L	1	<1	NA
Benzo (ghi) perylene	LB091736	µg/L	1	<1	NA
Benzo (k) fluoranthene	LB091736	µg/L	1	<1	NA
Benzo (b+j+k) fluoranthene	LB091736	µg/L	2	<2	NA
Chrysene	LB091736	µg/L	1	<1	NA
Dibenz (ah) anthracene	LB091736	µg/L	1	<1	NA
Fluoranthene	LB091736	µg/L	1	<1	NA
Fluorene	LB091736	µg/L	1	<1	NA
Indeno (1,2,3-cd) pyrene	LB091736	µg/L	1	<1	NA
Naphthalene	LB091736	µg/L	1	<1	NA
Phenanthrene	LB091736	µg/L	1	<1	NA
Pyrene	LB091736	µg/L	1	<1	84%
d14-p-terphenyl (Surrogate)	LB091736	%	0.001	117%	104%
d5-nitrobenzene (Surrogate)	LB091736	%	0.001	134%	115%
d6-phenol (Surrogate)	LB091736	%	0.001	54%	52%
2-fluorobiphenyl (Surrogate)	LB091736	%	0.001	79%	64%
2,4,6-tribromophenol (Surrogate)	LB091736	%	0.001	92%	97%
2-fluorophenol (Surrogate)	LB091736	%	0.001	102%	101%

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH C10-C14	LB091738	mg/L	0.01	<0.01	NA
	LB091739	mg/L	0.01	<0.01	NA
TRH C15-C28	LB091738	mg/L	0.05	<0.05	NA
	LB091739	mg/L	0.05	<0.05	NA
TRH C29-C36	LB091738	mg/L	0.05	<0.05	NA
	LB091739	mg/L	0.05	<0.05	NA
Total TRH C10-C36	LB091738	mg/L	0.05	<0.05	100%
	LB091739	mg/L	0.05	<0.05	100%
Total TRH C6-C36	LB091738	mg/L	0.05	<0.05	NA
	LB091739	mg/L	0.05	<0.05	NA
TRH >C10-C40 Total (F)	LB091738	mg/L	0.05	<0.05	NA
	LB091739	mg/L	0.05	<0.05	NA

TRH F Bands

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH >C10-C16	LB091738	mg/L	0.01	<0.01	NA
	LB091739	mg/L	0.01	<0.01	NA
TRH >C10-C16 less Naphthalene (F2)	LB091738	mg/L	0.01	<0.01	NA
	LB091739	mg/L	0.01	<0.01	NA
TRH >C16-C34 (F3)	LB091738	mg/L	0.05	<0.05	NA
	LB091739	mg/L	0.05	<0.05	NA
TRH >C34-C40 (F4)	LB091738	mg/L	0.05	<0.05	NA
	LB091739	mg/L	0.05	<0.05	NA
Total TRH C6-C40 (F)	LB091738	mg/L	0.05	<0.05	NA
	LB091739	mg/L	0.05	<0.05	NA



QC SUMMARY

ME373575 R0

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.

USEPA 8260B Additional VOCs in water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acetone*	LB091724	mg/L	0.02	<0.02	0%	NA
Acrylonitrile*	LB091724	mg/L	0.05	<0.05	0%	NA
Carbon disulphide*	LB091724	mg/L	0.005	<0.005	0%	NA
1-Chloro-2-propene*	LB091724	mg/L	0.001	<0.001	0%	NA
cis-1,4-Dichloro-2-butene*	LB091724	mg/L	0.005	<0.005	0%	NA
trans-1,4-Dichloro-2-butene*	LB091724	mg/L	0.005	<0.005	0%	NA
2-Hexanone*	LB091724	mg/L	0.001	<0.001	0%	NA
Iodomethane*	LB091724	mg/L	0.005	<0.005	0%	NA
MEK (2-butanone)	LB091724	mg/L	0.005	<0.005	0%	NA
Methyl Isobutyl Ketone*	LB091724	mg/L	0.005	<0.005	0%	NA
Methyl tert-butyl ether*	LB091724	mg/L	0.001	<0.001	0%	NA
Vinyl Acetate*	LB091724	mg/L	0.01	<0.01	0%	NA

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Benzene	LB091723	mg/L	0.001	<0.001	0%	93%
Bromobenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Bromochloromethane	LB091723	mg/L	0.001	<0.001	0%	NA
Bromodichloromethane	LB091723	mg/L	0.001	<0.001	0%	97%
Bromomethane	LB091723	mg/L	0.001	<0.001	0%	NA
n-Butylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
s-Butylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
t-Butylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Carbon tetrachloride	LB091723	mg/L	0.001	<0.001	0%	106%
Chlorobenzene	LB091723	mg/L	0.001	<0.001	0%	105%
Chloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
Chloromethane	LB091723	mg/L	0.001	<0.001	0%	NA
2-Chlorotoluene	LB091723	mg/L	0.001	<0.001	0%	NA
4-Chlorotoluene	LB091723	mg/L	0.001	<0.001	0%	NA
Dibromochloromethane	LB091723	mg/L	0.001	<0.001	0%	108%
1,2-Dibromo-3-chloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2-Dibromoethane	LB091723	mg/L	0.001	<0.001	0%	NA
Dibromomethane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2-Dichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	100%
1,3-Dichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	NA
1,4-Dichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	102%
Dichlorodifluoromethane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2-Dichloroethane	LB091723	mg/L	0.001	<0.001	0%	99%
1,1-Dichloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
1,1-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	88%
cis-1,2-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	92%
trans-1,2-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	88%
1,2-Dichloroethene	LB091723	mg/L	0.001	<0.001	0%	NA
Dichloromethane (methylene chloride)	LB091723	mg/L	0.01	<0.01	0%	91%
1,2-Dichloropropane	LB091723	mg/L	0.001	<0.001	0%	95%
1,3-Dichloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
2,2-Dichloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
1,1-Dichloropropene	LB091723	mg/L	0.001	<0.001	0%	NA
cis-1,3-Dichloropropene	LB091723	mg/L	0.001	<0.001	0%	NA
trans-1,3-Dichloropropene	LB091723	mg/L	0.001	<0.001	0%	NA
Ethylbenzene	LB091723	mg/L	0.001	<0.001	0%	101%
Hexachloro-1,3-butadiene	LB091723	mg/L	0.001	<0.001	0%	NA
Isopropylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
p-Isopropyltoluene	LB091723	mg/L	0.001	<0.001	0%	NA
Naphthalene (VOC)	LB091723	mg/L	0.001	<0.001	0%	NA

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.

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B (continued)

				MB	DUP %RPD	LCS %Recovery
Propylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Styrene	LB091723	mg/L	0.001	<0.001	0%	94%
1,1,2,2-Tetrachloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
Tetrachloroethene	LB091723	mg/L	0.001	<0.001	0%	106%
1,1,1,2-Tetrachloroethane	LB091723	mg/L	0.001	<0.001	0%	NA
Toluene	LB091723	mg/L	0.001	<0.001	0%	106%
Tribromomethane	LB091723	mg/L	0.001	<0.001	0%	114%
1,2,3-Trichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	NA
1,2,4-Trichlorobenzene	LB091723	mg/L	0.001	<0.001	0%	89%
1,1,1-Trichloroethane	LB091723	mg/L	0.001	<0.001	0%	103%
1,3,5-Trichlorobenzene	LB091723	mg/L	0.001	<0.001		
1,1,2-Trichloroethane	LB091723	mg/L	0.001	<0.001	0%	104%
Trichloroethene	LB091723	mg/L	0.001	<0.001	0%	91%
Trichlorofluoromethane	LB091723	mg/L	0.001	<0.001	0%	NA
Trichloromethane	LB091723	mg/L	0.001	<0.001	0%	93%
1,2,3-Trichloropropane	LB091723	mg/L	0.001	<0.001	0%	NA
1,2,4-Trimethylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
1,3,5-Trimethylbenzene	LB091723	mg/L	0.001	<0.001	0%	NA
Vinyl Chloride	LB091723	mg/L	0.001	<0.001	0%	87%
m&p-Xylenes	LB091723	mg/L	0.001	<0.001	0%	104%
o-Xylene	LB091723	mg/L	0.001	<0.001	0%	107%
Xylenes	LB091723	mg/L	0.001	<0.001	0%	NA
Total Trichlorobenzenes	LB091723	mg/L	0.001	<0.001	0%	NA
Total trihalomethanes (THMs)	LB091723	mg/L	0.002	<0.002	0%	NA
Total BTEX	LB091723	mg/L	0.001	<0.001	0%	NA
Toluene-d8 (surrogate)	LB091723	%	-	104%	1%	101%
1,2-Dichloroethane_D4 (Surrogate)	LB091723	%	-	105%	1 - 4%	101%
Dibromofluoromethane (Surrogate)	LB091723	%	-	104%	1 - 5%	98%
p-Bromofluorobenzene (Surrogate)	LB091723	%	-	95%	2%	107%



QC SUMMARY

ME373575 R0

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.

VPH in Water MA-30 Method: MA30-VPH

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
C6-C9 (P&T)	LB091723	mg/L	0.01	<0.01	0%	80%
C6-C10 (P&T)	LB091723	mg/L	0.01	<0.01	0%	77%
C6-C10 (P&T) less BTEX (F1)	LB091723	mg/L	0.01	<0.01	0%	NA

METHOD

METHODOLOGY SUMMARY

EPA 8260B-01

This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40. The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions". Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS).

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC-QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting.

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

ME373575 R0

CLIENT DETAILS

Contact SGS Environmental Perth
Client SGS I&E EHS PERTH AIRPORT
Address 28 Reid Road
Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
Facsimile +61 (0)8 9373 3556
Email au.environmental.subcon@sgs.com

Project **P25.045**
Order Number **PE184093**
Samples 4

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 **ME373575 R0**
Date Received 08 Jul 2025
Date Reported 11 Jul 2025

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:

Surrogate	SVOC Compounds in Waters by GC-QQQ	1 item
-----------	------------------------------------	--------

SAMPLE SUMMARY

Date documentation received	4 Water	Sample counts by matrix	8/7/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	12.6°C	Sample container provider	SGS
Turnaround time requested	Two Days	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	14 Ice Bricks
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4	Type of documentation received	COC



HOLDING TIME SUMMARY

ME373575 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 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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184093.001	ME373575.001	LB091732	08 Jul 2025	08 Jul 2025	05 Aug 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184093.002	ME373575.002	LB091732	08 Jul 2025	08 Jul 2025	05 Aug 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184093.003	ME373575.003	LB091732	08 Jul 2025	08 Jul 2025	05 Aug 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025
PE184093.004	ME373575.004	LB091732	08 Jul 2025	08 Jul 2025	05 Aug 2025	09 Jul 2025	06 Aug 2025	10 Jul 2025

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184093.001	ME373575.001	LB091736	08 Jul 2025	08 Jul 2025	15 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184093.001	ME373575.001	LB091738	08 Jul 2025	08 Jul 2025	22 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184093.002	ME373575.002	LB091739	08 Jul 2025	08 Jul 2025	22 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184093.003	ME373575.003	LB091739	08 Jul 2025	08 Jul 2025	22 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184093.004	ME373575.004	LB091739	08 Jul 2025	08 Jul 2025	22 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025

USEPA 8260B Additional VOCs in water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184093.001	ME373575.001	LB091724	08 Jul 2025	08 Jul 2025	22 Jul 2025	08 Jul 2025	22 Jul 2025	10 Jul 2025

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184093.001	ME373575.001	LB091723	08 Jul 2025	08 Jul 2025	22 Jul 2025	08 Jul 2025	22 Jul 2025	09 Jul 2025
PE184093.002	ME373575.002	LB091723	08 Jul 2025	08 Jul 2025	22 Jul 2025	08 Jul 2025	22 Jul 2025	09 Jul 2025
PE184093.003	ME373575.003	LB091723	08 Jul 2025	08 Jul 2025	22 Jul 2025	08 Jul 2025	22 Jul 2025	09 Jul 2025
PE184093.004	ME373575.004	LB091723	08 Jul 2025	08 Jul 2025	22 Jul 2025	08 Jul 2025	22 Jul 2025	09 Jul 2025

VPH in Water MA-30

Method: MA30-VPH

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184093.001	ME373575.001	LB091723	08 Jul 2025	08 Jul 2025	22 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184093.002	ME373575.002	LB091723	08 Jul 2025	08 Jul 2025	22 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184093.003	ME373575.003	LB091723	08 Jul 2025	08 Jul 2025	22 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025
PE184093.004	ME373575.004	LB091723	08 Jul 2025	08 Jul 2025	22 Jul 2025	08 Jul 2025	17 Aug 2025	09 Jul 2025



SURROGATES

ME373575 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	95
	PE184093.002	ME373575.002	%	10 - 150%	82
	PE184093.003	ME373575.003	%	10 - 150%	93
	PE184093.004	ME373575.004	%	10 - 150%	98
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	96
	PE184093.002	ME373575.002	%	10 - 150%	120
	PE184093.003	ME373575.003	%	10 - 150%	115
	PE184093.004	ME373575.004	%	10 - 150%	130
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	68
	PE184093.002	ME373575.002	%	10 - 150%	83
	PE184093.003	ME373575.003	%	10 - 150%	81
	PE184093.004	ME373575.004	%	10 - 150%	103
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	73
	PE184093.002	ME373575.002	%	10 - 150%	91
	PE184093.003	ME373575.003	%	10 - 150%	92
	PE184093.004	ME373575.004	%	10 - 150%	100
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	99
	PE184093.002	ME373575.002	%	10 - 150%	92
	PE184093.003	ME373575.003	%	10 - 150%	96
	PE184093.004	ME373575.004	%	10 - 150%	108
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	104
	PE184093.002	ME373575.002	%	10 - 150%	59
	PE184093.003	ME373575.003	%	10 - 150%	73
	PE184093.004	ME373575.004	%	10 - 150%	76
(13C3-PFBs) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	99
	PE184093.002	ME373575.002	%	10 - 150%	101
	PE184093.003	ME373575.003	%	10 - 150%	85
	PE184093.004	ME373575.004	%	10 - 150%	103
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	107
	PE184093.002	ME373575.002	%	10 - 150%	102
	PE184093.003	ME373575.003	%	10 - 150%	95
	PE184093.004	ME373575.004	%	10 - 150%	102
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	98
	PE184093.002	ME373575.002	%	10 - 150%	100
	PE184093.003	ME373575.003	%	10 - 150%	102
	PE184093.004	ME373575.004	%	10 - 150%	86
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	102
	PE184093.002	ME373575.002	%	10 - 150%	101
	PE184093.003	ME373575.003	%	10 - 150%	102
	PE184093.004	ME373575.004	%	10 - 150%	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	96
	PE184093.002	ME373575.002	%	10 - 150%	101
	PE184093.003	ME373575.003	%	10 - 150%	99
	PE184093.004	ME373575.004	%	10 - 150%	91
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	95
	PE184093.002	ME373575.002	%	10 - 150%	99
	PE184093.003	ME373575.003	%	10 - 150%	101
	PE184093.004	ME373575.004	%	10 - 150%	96
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	102
	PE184093.002	ME373575.002	%	10 - 150%	100
	PE184093.003	ME373575.003	%	10 - 150%	102
	PE184093.004	ME373575.004	%	10 - 150%	104
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	88
	PE184093.002	ME373575.002	%	10 - 150%	113
	PE184093.003	ME373575.003	%	10 - 150%	93
	PE184093.004	ME373575.004	%	10 - 150%	97
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	102
	PE184093.002	ME373575.002	%	10 - 150%	105
	PE184093.003	ME373575.003	%	10 - 150%	107
	PE184093.004	ME373575.004	%	10 - 150%	108
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	108



SURROGATES

ME373575 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	PE184093.002	ME373575.002	%	10 - 150%	105
	PE184093.003	ME373575.003	%	10 - 150%	90
	PE184093.004	ME373575.004	%	10 - 150%	103
(13C8-PFOA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	85
	PE184093.002	ME373575.002	%	10 - 150%	118
	PE184093.003	ME373575.003	%	10 - 150%	96
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	PE184093.004	ME373575.004	%	10 - 150%	91
	PE184093.001	ME373575.001	%	10 - 150%	91
	PE184093.002	ME373575.002	%	10 - 150%	97
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	PE184093.003	ME373575.003	%	10 - 150%	95
	PE184093.004	ME373575.004	%	10 - 150%	95
	PE184093.001	ME373575.001	%	10 - 150%	55
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	PE184093.002	ME373575.002	%	10 - 150%	124
	PE184093.003	ME373575.003	%	10 - 150%	98
	PE184093.004	ME373575.004	%	10 - 150%	105
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	77
	PE184093.002	ME373575.002	%	10 - 150%	101
	PE184093.003	ME373575.003	%	10 - 150%	93
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	PE184093.004	ME373575.004	%	10 - 150%	94
	PE184093.001	ME373575.001	%	10 - 150%	56
	PE184093.002	ME373575.002	%	10 - 150%	116
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	PE184093.003	ME373575.003	%	10 - 150%	73
	PE184093.004	ME373575.004	%	10 - 150%	103
	PE184093.001	ME373575.001	%	10 - 150%	81
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	PE184093.002	ME373575.002	%	10 - 150%	118
	PE184093.003	ME373575.003	%	10 - 150%	91
	PE184093.004	ME373575.004	%	10 - 150%	103
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	PE184093.001	ME373575.001	%	10 - 150%	85
	PE184093.002	ME373575.002	%	10 - 150%	109
	PE184093.003	ME373575.003	%	10 - 150%	96
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	PE184093.004	ME373575.004	%	10 - 150%	97
	PE184093.001	ME373575.001	%	10 - 150%	91
	PE184093.002	ME373575.002	%	10 - 150%	112
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	PE184093.003	ME373575.003	%	10 - 150%	79
	PE184093.004	ME373575.004	%	10 - 150%	95
	PE184093.001	ME373575.001	%	10 - 150%	91

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	PE184093.001	ME373575.001	%	40 - 130%	91
2-fluorobiphenyl (Surrogate)	PE184093.001	ME373575.001	%	40 - 130%	76
2-fluorophenol (Surrogate)	PE184093.001	ME373575.001	%	40 - 130%	105
d14-p-terphenyl (Surrogate)	PE184093.001	ME373575.001	%	40 - 130%	92
d5-nitrobenzene (Surrogate)	PE184093.001	ME373575.001	%	40 - 130%	95
d6-phenol (Surrogate)	PE184093.001	ME373575.001	%	40 - 130%	36 †

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	PE184093.001	ME373575.001	%	60 - 130%	106
	PE184093.002	ME373575.002	%	60 - 130%	106
	PE184093.003	ME373575.003	%	60 - 130%	102
	PE184093.004	ME373575.004	%	60 - 130%	106
Dibromofluoromethane (Surrogate)	PE184093.001	ME373575.001	%	60 - 130%	103
	PE184093.002	ME373575.002	%	60 - 130%	103
	PE184093.003	ME373575.003	%	60 - 130%	100
	PE184093.004	ME373575.004	%	60 - 130%	103
p_Bromofluorobenzene (Surrogate)	PE184093.001	ME373575.001	%	60 - 130%	94
	PE184093.002	ME373575.002	%	60 - 130%	95
	PE184093.003	ME373575.003	%	60 - 130%	91
	PE184093.004	ME373575.004	%	60 - 130%	94
Toluene-d8 (surrogate)	PE184093.001	ME373575.001	%	60 - 130%	102
	PE184093.002	ME373575.002	%	60 - 130%	104
	PE184093.003	ME373575.003	%	60 - 130%	99



SURROGATES

ME373575 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Toluene-d8 (surrogate)	PE184093.004	ME373575.004	%	60 - 130%	102

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 Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result
LB091732.001	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	<0.0005
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002
	Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001
	Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001
	Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002
	Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001
	Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001
	Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002
	Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002
	Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002
	Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005
	Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005
	Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002
	N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025
	2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	µg/L	0.0025	<0.0025
	2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	µg/L	0.0025	<0.0025
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	µg/L	0.0025	<0.0025
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	%	-	111
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	%	-	98
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	%	-	93
	(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	%	-	91
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	%	-	81
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	%	-	61
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	%	-	48
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	%	-	94
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	%	-	97
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	%	-	122
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	107
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	75
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	83
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	%	-	99
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	%	-	74
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	%	-	59
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	%	-	88
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	%	-	90
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	93
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	100

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091736.001	Acenaphthene	µg/L	1	<1
	Acenaphthylene	µg/L	1	<1
	Anthracene	µg/L	1	<1



METHOD BLANKS

ME373575 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091736.001	Benzo(a)anthracene	µg/L	1	<1
	Benzo (a) pyrene	µg/L	1	<1
	Benzo (b) fluoranthene	µg/L	1	<1
	Benzo (ghi) perylene	µg/L	1	<1
	Benzo (k) fluoranthene	µg/L	1	<1
	Benzo (b+j+k) fluoranthene	µg/L	2	<2
	Chrysene	µg/L	1	<1
	Dibenz (ah) anthracene	µg/L	1	<1
	Fluoranthene	µg/L	1	<1
	Fluorene	µg/L	1	<1
	Indeno (1,2,3-cd) pyrene	µg/L	1	<1
	Naphthalene	µg/L	1	<1
	Phenanthrene	µg/L	1	<1
	Pyrene	µg/L	1	<1

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result	
LB091738.001	TRH C10-C14	mg/L	0.01	<0.01	
	TRH C15-C28	mg/L	0.05	<0.05	
	TRH C29-C36	mg/L	0.05	<0.05	
	Total TRH C10-C36	mg/L	0.05	<0.05	
	Total TRH C6-C36	mg/L	0.05	<0.05	
	TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	
	TRH F Bands	TRH >C10-C16	mg/L	0.01	<0.01
		TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01
		TRH >C16-C34 (F3)	mg/L	0.05	<0.05
		TRH >C34-C40 (F4)	mg/L	0.05	<0.05
		Total TRH C6-C40 (F)	mg/L	0.05	<0.05
		LB091739.001	TRH C10-C14	mg/L	0.01
TRH C15-C28	mg/L		0.05	<0.05	
TRH C29-C36	mg/L		0.05	<0.05	
Total TRH C10-C36	mg/L		0.05	<0.05	
Total TRH C6-C36	mg/L		0.05	<0.05	
TRH >C10-C40 Total (F)	mg/L		0.05	<0.05	
TRH F Bands	TRH >C10-C16		mg/L	0.01	<0.01
	TRH >C10-C16 less Naphthalene (F2)		mg/L	0.01	<0.01
	TRH >C16-C34 (F3)		mg/L	0.05	<0.05
	TRH >C34-C40 (F4)		mg/L	0.05	<0.05
	Total TRH C6-C40 (F)		mg/L	0.05	<0.05

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091723.001	Benzene	mg/L	0.001	<0.001
	Bromobenzene	mg/L	0.001	<0.001
	Bromochloromethane	mg/L	0.001	<0.001
	Bromodichloromethane	mg/L	0.001	<0.001
	Bromomethane	mg/L	0.001	<0.001
	n-Butylbenzene	mg/L	0.001	<0.001
	s-Butylbenzene	mg/L	0.001	<0.001
	t-Butylbenzene	mg/L	0.001	<0.001
	Carbon tetrachloride	mg/L	0.001	<0.001
	Chlorobenzene	mg/L	0.001	<0.001
	Chloroethane	mg/L	0.001	<0.001
	Chloromethane	mg/L	0.001	<0.001
	2-Chlorotoluene	mg/L	0.001	<0.001
	4-Chlorotoluene	mg/L	0.001	<0.001
	Dibromochloromethane	mg/L	0.001	<0.001
	1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001
	1,2-Dibromoethane	mg/L	0.001	<0.001
	Dibromomethane	mg/L	0.001	<0.001
	1,2-Dichlorobenzene	mg/L	0.001	<0.001
	1,3-Dichlorobenzene	mg/L	0.001	<0.001



METHOD BLANKS

ME373575 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091723.001	1,4-Dichlorobenzene	mg/L	0.001	<0.001
	Dichlorodifluoromethane	mg/L	0.001	<0.001
	1,2-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethene	mg/L	0.001	<0.001
	cis-1,2-Dichloroethene	mg/L	0.001	<0.001
	trans-1,2-Dichloroethene	mg/L	0.001	<0.001
	Dichloromethane (methylene chloride)	mg/L	0.01	<0.01
	1,2-Dichloropropane	mg/L	0.001	<0.001
	1,3-Dichloropropane	mg/L	0.001	<0.001
	2,2-Dichloropropane	mg/L	0.001	<0.001
	1,1-Dichloropropene	mg/L	0.001	<0.001
	cis-1,3-Dichloropropene	mg/L	0.001	<0.001
	trans-1,3-Dichloropropene	mg/L	0.001	<0.001
	Ethylbenzene	mg/L	0.001	<0.001
	Hexachloro-1,3-butadiene	mg/L	0.001	<0.001
	Isopropylbenzene	mg/L	0.001	<0.001
	p-Isopropyltoluene	mg/L	0.001	<0.001
	Naphthalene (VOC)	mg/L	0.001	<0.001
	Propylbenzene	mg/L	0.001	<0.001
	Styrene	mg/L	0.001	<0.001
	1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001
	Tetrachloroethene	mg/L	0.001	<0.001
	1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001
	Toluene	mg/L	0.001	<0.001
	Tribromomethane	mg/L	0.001	<0.001
	1,2,3-Trichlorobenzene	mg/L	0.001	<0.001
	1,2,4-Trichlorobenzene	mg/L	0.001	<0.001
	1,1,1-Trichloroethane	mg/L	0.001	<0.001
	1,1,2-Trichloroethane	mg/L	0.001	<0.001
	Trichloroethene	mg/L	0.001	<0.001
	Trichlorofluoromethane	mg/L	0.001	<0.001
	Trichloromethane	mg/L	0.001	<0.001
	1,2,3-Trichloropropane	mg/L	0.001	<0.001
	1,2,4-Trimethylbenzene	mg/L	0.001	<0.001
	1,3,5-Trimethylbenzene	mg/L	0.001	<0.001
	Vinyl Chloride	mg/L	0.001	<0.001
	m&p-Xylenes	mg/L	0.001	<0.001
	o-Xylene	mg/L	0.001	<0.001
	Xylenes	mg/L	0.001	<0.001
	Toluene-d8 (surrogate)	%	-	104
	1,2-Dichloroethane_D4 (Surrogate)	%	-	105
	Dibromofluoromethane (Surrogate)	%	-	104
	p-Bromofluorobenzene (Surrogate)	%	-	95

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result
LB091723.001	C6-C9 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373575.001	LB091732.004	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0026	0.0027	200	2
		Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0032	0.0033	200	3
		Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0013	0.0014	200	7
		Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0016	0.0012	200	25
		Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	200	0
		Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0026	0.0039	200	39
		Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.0034	0.0051	200	40
		Sum of PFHxS and PFOS	µg/L	0.0002	0.0060	0.0090	200	40
		Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	µg/L	-	10.2	9.87	200	4
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	µg/L	-	10.2	9.99	200	2
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	µg/L	-	9.51	9.76	200	3
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	µg/L	-	9.55	9.51	200	1
		(13C4_PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.84	8.95	200	10
		(13C9-PFNA) Isotopically Labelled Internal Recovery	µg/L	-	9.12	8.72	200	5
		(13C6-PFDA) Isotopically Labelled Internal Recovery	µg/L	-	8.83	8.21	200	7
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	µg/L	-	10.2	9.98	200	2
		(13C2-PFDoA) Isotopically Labelled Internal Recovery	µg/L	-	9.93	10.5	200	6
		(13C2_PFTeDA) Isotopically Labelled Internal Recovery	µg/L	-	9.52	10.4	200	9
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	µg/L	-	10.4	10.7	200	3
		(13C3-PFBS) Isotopically Labelled Internal Recovery	µg/L	-	9.85	11.2	200	13
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	µg/L	-	10.7	13.9	200	26
		(13C8-PFOS) Isotopically Labelled Internal Recovery	µg/L	-	10.8	11.8	200	9
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	9.62	10.1	200	4
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	6.80	7.08	200	4
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	7.32	6.35	200	14
		(13C8-PFOSA) Isotopically Labelled Internal Recovery	µg/L	-	8.49	10.8	200	24
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	µg/L	-	5.50	11.4	200	70
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	µg/L	-	5.58	8.47	200	41
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	µg/L	-	8.52	11.0	200	25
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	µg/L	-	9.09	11.0	200	19
		(D3-N-MeFOSAA) Isotopically Labelled Internal	µg/L	-	7.74	7.28	200	6
		(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	µg/L	-	8.12	7.17	200	12
ME373576.007	LB091732.015	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0099	0.0087	200	14
		Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	0.0060	0.0069	200	13
		Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0044	0.0046	200	5
		Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0006	0.0006	200	7
		Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	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 give a different calculated RPD.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level (continued)

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373576.007	LB091732.015	Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	200	0
		Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0010	0.0016	200	46
		Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Sum of PFHxS and PFOS	µg/L	0.0002	0.0010	0.0016	200	46
		Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	µg/L	-	10.1	9.67	200	4
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	µg/L	-	14.6	14.5	200	0
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	µg/L	-	9.14	8.89	200	3
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	µg/L	-	9.73	9.82	200	1
		(13C4_PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.79	8.38	200	16
		(13C9-PFNA) Isotopically Labelled Internal Recovery	µg/L	-	10.2	9.85	200	4
		(13C6-PFDA) Isotopically Labelled Internal Recovery	µg/L	-	9.32	10.7	200	14
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	µg/L	-	9.73	10.2	200	4
		(13C2-PFDoA) Isotopically Labelled Internal Recovery	µg/L	-	10.5	9.82	200	7
		(13C2_PFTeDA) Isotopically Labelled Internal Recovery	µg/L	-	10.8	10.8	200	0
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	µg/L	-	9.92	10.9	200	9
		(13C3-PFBS) Isotopically Labelled Internal Recovery	µg/L	-	8.58	8.70	200	1
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	µg/L	-	10.3	9.51	200	8
		(13C8-PFOS) Isotopically Labelled Internal Recovery	µg/L	-	10.9	10.2	200	6
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	8.03	8.06	200	0
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	7.09	7.10	200	0
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	6.99	7.14	200	2
		(13C8-PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.48	11.3	200	17
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	µg/L	-	10.9	8.45	200	26
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	µg/L	-	5.28	6.96	200	28
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	µg/L	-	8.75	8.56	200	2
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	µg/L	-	9.03	10.5	200	15
		(D3-N-MeFOSAA) Isotopically Labelled Internal	µg/L	-	6.08	7.09	200	15
		(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	µg/L	-	7.65	7.31	200	5

USEPA 8260B Additional VOCs in water

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091724.006	Acetone*	mg/L	0.02	<0.02	<0.02	200	0
		Acrylonitrile*	mg/L	0.05	<0.05	<0.05	200	0
		Carbon disulphide*	mg/L	0.005	<0.005	<0.005	200	0
		1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		2-Hexanone*	mg/L	0.001	<0.001	<0.001	200	0
		Iodomethane*	mg/L	0.005	<0.005	<0.005	200	0
		MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	200	0

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

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: $MAD = 100 \times \frac{SDL}{Mean} + LR$

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.

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.

USEPA 8260B Additional VOCs in water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091724.006	Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	200	0
		Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	200	0
ME373576.008	LB091724.016	Acetone*	mg/L	0.02	<0.02	<0.02	200	0
		Acrylonitrile*	mg/L	0.05	<0.05	<0.05	200	0
		Carbon disulphide*	mg/L	0.005	<0.005	<0.005	200	0
		1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	200	0
		2-Hexanone*	mg/L	0.001	<0.001	<0.001	200	0
		Iodomethane*	mg/L	0.005	<0.005	<0.005	200	0
		MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	200	0
		Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	200	0
		Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	200	0

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091723.006	Benzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromodichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromomethane	mg/L	0.001	<0.001	<0.001	200	0
		n-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		s-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		t-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	200	0
		Chlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Chloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Chloromethane	mg/L	0.001	<0.001	<0.001	200	0
		2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		Dibromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	200	0
		Dibromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	200	0
		1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		Ethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	200	0
		Isopropylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	200	0
		Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	200	0
		Propylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Styrene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0

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

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: $MAD = 100 \times \frac{SDL}{Mean} + LR$

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.

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091723.006	Tetrachloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Toluene	mg/L	0.001	<0.001	<0.001	200	0
		Tribromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Chloride	mg/L	0.001	<0.001	<0.001	200	0
		m&p-Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		o-Xylene	mg/L	0.001	<0.001	<0.001	200	0
		Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	200	0
		Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	200	0
		Total BTEX	mg/L	0.001	<0.001	<0.001	200	0
		Toluene-d8 (surrogate)	µg/L	-	51.9	51.2	30	1
		1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	50.5	52.4	30	4
		Dibromofluoromethane (Surrogate)	µg/L	-	48.9	51.6	30	5
		p_Bromofluorobenzene (Surrogate)	µg/L	-	46.3	47.2	30	2
ME373576.005	LB091723.016	Benzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromodichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromomethane	mg/L	0.001	<0.001	<0.001	200	0
		n-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		s-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		t-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	200	0
		Chlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Chloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Chloromethane	mg/L	0.001	<0.001	<0.001	200	0
		2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		Dibromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	200	0
		Dibromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	200	0
		1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		Ethylbenzene	mg/L	0.001	<0.001	<0.001	200	0



DUPLICATES

ME373575 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373576.005	LB091723.016	Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	200	0
		Isopropylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	200	0
		Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	200	0
		Propylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Styrene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Tetrachloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Toluene	mg/L	0.001	<0.001	<0.001	200	0
		Tribromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Chloride	mg/L	0.001	<0.001	<0.001	200	0
		m&p-Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		o-Xylene	mg/L	0.001	<0.001	<0.001	200	0
		Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	200	0
		Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	200	0
		Total BTEX	mg/L	0.001	<0.001	<0.001	200	0
		Toluene-d8 (surrogate)	µg/L	-	51.4	51.7	30	1
		1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	53.2	53.9	30	1
		Dibromofluoromethane (Surrogate)	µg/L	-	52.0	52.6	30	1
		p_Bromofluorobenzene (Surrogate)	µg/L	-	46.2	47.1	30	2

VPH in Water MA-30

Method: MA30-VPH

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373574.002	LB091723.006	C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	200	0
ME373576.005	LB091723.016	C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	200	0



LABORATORY CONTROL SAMPLES

ME373575 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091732.002	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.015	0.02	40 - 150	75
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.019	0.02	40 - 150	93
	Perfluorononanoic acid (PFNA)	µg/L	0.001	0.016	0.02	40 - 150	79
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	0.014	0.02	40 - 150	71
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	0.015	0.02	40 - 150	75
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	0.016	0.02	40 - 150	82
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	0.014	0.02	40 - 150	69
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	0.015	0.02	40 - 150	75
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.014	0.02	40 - 150	68
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	0.013	0.02	40 - 150	67
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.0	10	10 - 150	100
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.91	10	10 - 150	99
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.62	10	10 - 150	96
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	10	10 - 150	101
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.78	10	10 - 150	88
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.69	10	10 - 150	97
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	12.5	10	10 - 150	125
	(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	10	10 - 150	102
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	10	10 - 150	101
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.3	10	10 - 150	103
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.93	10	10 - 150	89
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.28	9.3	10 - 150	100
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.50	9.46	9 - 150	100
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.6	9.28	10 - 150	114
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	9.34	10 - 150	109
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.32	9.5	10 - 150	77
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.86	9.58	10 - 150	82
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.6	10	10 - 150	106
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.23	10	10 - 150	82
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.41	10	10 - 150	74
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.71	10	10 - 150	97
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.75	10	10 - 150	98
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.75	10	10 - 150	98
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	10	10 - 150	102

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091738.002	Total TRH C10-C36	mg/L	0.05	25	25	80 - 120	100
LB091739.002	Total TRH C10-C36	mg/L	0.05	25	25	80 - 120	100

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091723.002	Benzene	mg/L	0.001	0.023	0.025	60 - 140	93
	Bromodichloromethane	mg/L	0.001	0.024	0.025	60 - 140	97
	Carbon tetrachloride	mg/L	0.001	0.027	0.025	60 - 140	106
	Chlorobenzene	mg/L	0.001	0.026	0.025	60 - 140	105
	Dibromochloromethane	mg/L	0.001	0.027	0.025	60 - 140	108
	1,2-Dichlorobenzene	mg/L	0.001	0.025	0.025	60 - 140	100
	1,4-Dichlorobenzene	mg/L	0.001	0.025	0.025	60 - 140	102
	1,2-Dichloroethane	mg/L	0.001	0.025	0.025	60 - 140	99
	1,1-Dichloroethene	mg/L	0.001	0.022	0.025	60 - 140	88
	cis-1,2-Dichloroethene	mg/L	0.001	0.023	0.025	60 - 140	92
	trans-1,2-Dichloroethene	mg/L	0.001	0.022	0.025	60 - 140	88
	Dichloromethane (methylene chloride)	mg/L	0.01	0.02	0.025	60 - 140	91
	1,2-Dichloropropane	mg/L	0.001	0.024	0.025	60 - 140	95
	Ethylbenzene	mg/L	0.001	0.025	0.025	60 - 140	101
	Styrene	mg/L	0.001	0.024	0.025	60 - 140	94
	Tetrachloroethene	mg/L	0.001	0.026	0.025	60 - 140	106
	Toluene	mg/L	0.001	0.027	0.025	60 - 140	106
	Tribromomethane	mg/L	0.001	0.028	0.025	60 - 140	114
	1,2,4-Trichlorobenzene	mg/L	0.001	0.022	0.025	60 - 140	89



LABORATORY CONTROL SAMPLES

ME373575 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091723.002	1,1,1-Trichloroethane	mg/L	0.001	0.026	0.025	60 - 140	103
	1,1,2-Trichloroethane	mg/L	0.001	0.026	0.025	60 - 140	104
	Trichloroethene	mg/L	0.001	0.023	0.025	60 - 140	91
	Trichloromethane	mg/L	0.001	0.023	0.025	60 - 140	93
	Vinyl Chloride	mg/L	0.001	0.022	0.025	60 - 140	87
	m&p-Xylenes	mg/L	0.001	0.052	0.05	60 - 140	104
	o-Xylene	mg/L	0.001	0.027	0.025	60 - 140	107
	Toluene-d8 (surrogate)	µg/L	-	50.3	50	70 - 130	101
	1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	50.4	50	70 - 130	101
	Dibromofluoromethane (Surrogate)	µg/L	-	48.9	50	70 - 130	98
	p_Bromofluorobenzene (Surrogate)	µg/L	-	53.3	50	70 - 130	107

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091723.002	C6-C9 (P&T)	mg/L	0.01	0.36	0.45	60 - 130	80
	C6-C10 (P&T)	mg/L	0.01	0.38	0.5	60 - 130	77



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

ME373575 R0

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 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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.



SAMPLE RECEIPT ADVICE

PE184093

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 4

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

Samples Received Fri 4/7/2025
Report Due Fri 11/7/2025
SGS Reference **PE184093**

SUBMISSION DETAILS

This is to confirm that 4 samples were received on Friday 4/7/2025. Results are expected to be ready by COB Friday 11/7/2025. Please quote SGS reference PE184093 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Date documentation received	4 Water	Sample counts by matrix	4/7/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17.4-18.9°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4		

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

Organics and PFAS to be subcontracted to SGS Notting Hill
FRP and REDOX received on last day of holding time for sample 1.
NOx received on second last day of holding time for sample 1.

Sample 1, 1L unpreserved bottle was not received.

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

PE184093

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in	SVOC Compounds in Waters by GC-QQQ	Trace Metals (Dissolved) in Water by ICPMS TQe	TRH in Water MA-30.WW.05 Old & New	USEPA 8260B Additional VOCs in water	USEPA8260B Volatile Organic Compounds in	VPH in Water MA-30
001	DUP01	56	24	16	11	12	69	3
002	RB01	56	-	7	11	-	12	3
003	RB02	56	-	7	11	-	12	3
004	FB/TB01	56	-	7	11	-	12	3

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

PE184093

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Acidity and Free CO2	Alkalinity	Ammonia Nitrogen by FIA	Chloride by Discrete Analyser in Water	Conductivity and TDS by Calculation - Water	Mercury (dissolved) in Water	pH in water	Sulfate in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Dissolved Solids (TDS) in water
001	DUP01	1	3	1	1	1	1	1	1	1	1
002	RB01	-	-	-	-	-	1	-	-	-	-
003	RB02	-	-	-	-	-	1	-	-	-	-
004	FB/TB01	-	-	-	-	-	1	-	-	-	-

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

PE184093

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

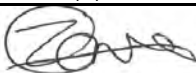
Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Calculated Nitrogen Forms - TN, organic N, inorganic	Dissolved Oxygen by Membrane Electrode	Filterable Reactive Phosphorus (FRP)	Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA	Redox Potential (Eh) in water	Total Phosphorus by Kjeldahl Digestion DA in	Trace Metals (Total) in Water by ICPMS TQe
001	DUP01	1	3	1	2	2	1	2

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 .



Company Name :					Western Environmental Pty Ltd					WA		Project Number / Purchase Order :					P25.045																			
Office Address :		Unit 5, 162 Colin St, West Perth WA 6005			Contact Name :			Filip Magnusson		Project Manager:			Matthew Trenorden			Quote ID :		WESTE - IE - APR 25 – 1984948																		
Laboratory Address :					Email for results:		filip.m@westenv.com.au			CC1:		matt.t@westenv.com.au			esdat-westenv@esdatlabsync.net																					
SGS Australia Pty Ltd										CC2:		zandile.o@westenv.com.au																								
28 Reid Road					Analytes												HOLD	Special Directions & Comments :																		
Perth Airport, WA, 6105					Total PFAS Full Suite, compliant with "NEMP freshwater 99% species protection levels (low level)"													Please forward Triplicate samples (TRIPS) to ALS Perth.																		
Contact: Ros Ma, Phone: (08) 9373 3500, 93733531																																				
Email: ros.ma@sgs.com, AU.SampleReceipt.Perth@sgs.com																																				
																	Container																			
#	Sample ID	Type	Sample Date	Matrix	Total PFAS Full Suite, compliant with "NEMP freshwater 99% species protection levels (low level)"	TRH/ BTEXN	DWER ASS suite (nutrients, metals and ASS parameters), anions/cations (Acid Sulfate Soil Suite, Nutrients)	PAH and VOCs	8 METALS								PFAS Jar	Glass Jar	125 ml Green Plastic	100 ml Red Plastic	2x Vials	Amber glass	PFAS Bottle	1L Plastic												
1	T25-MW12	Normal	4/07/2025	Groundwater													X	X	X	X											1	2	1	1	1	1
2	T25-MW25	Normal	4/07/2025	Groundwater													X	X	X	X											1	2	1	1	1	1
3	A20-GW04	Normal	4/07/2025	Groundwater													X	X	X	X											1	2	1	1	1	1
4	DUP02	Normal	4/07/2025	Groundwater													X	X	X	X											1	2	1	1	1	1
5	TRIP02	Normal	4/07/2025	Groundwater													X	X	X	X											1	2	1	1	1	1
6	RINS02	Normal	4/07/2025	Groundwater													X	X			X										2	1	1	1	1	1
7	FB/TB01	Normal	4/07/2025	Groundwater													X	X			X										2	1	1	1		
8																																				
9																																				
10																																				
11																																				
12																																				
13																																				
14																																				
15																																				
Relinquished By:					Zandi Okonji					Received By:					Turn around Time :					5 Days					Method Of Shipment :											
Date & Time:					4/07/2025					Date & Time :					Comments :					Hand Delivered																
Signature:										Signature:																										
										Report Number :																										

CLIENT DETAILS

Contact **Filip M**
 Client **WESTERN ENVIRONMENTAL**
 Address **PO BOX 437
 LEEDERVILLE WA 6903**

Telephone **61 8 61628980**
 Facsimile **(Not specified)**
 Email **filip.m@westenv.com.au**

Project **P25.045**
 Order Number **P25.045**
 Samples **6**

LABORATORY DETAILS

Manager **Merene Hwang**
 Laboratory **SGS Perth Environmental**
 Address **28 Reid Rd
 Perth Airport WA 6105**

Telephone **(08) 9373 3500**
 Facsimile **(08) 9373 3556**
 Email **au.environmental.perth@sgs.com**

SGS Reference **PE184125 R1**
 Date Received **04 Jul 2025**
 Date Reported **17 Jul 2025**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(898).

Metals: The over range results on ICPMS Method AN318 were reported using ICPOES method AN320.

Organics and PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number 2562 (14420), ME373477

This report cancels and supersedes the report PE184125 R0 dated 16/07/2025 due to amended ID for samples 1 & 2.

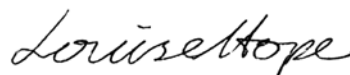
SIGNATORIES



Chiara CAPORALE
Team Leader



Hue Thanh LY
Metals Team Leader



Louise HOPE
Laboratory Technician



Mary Ann OLA-A
Inorganics Team Leader



Merene HWANG
Lab Manager



Murray O'NEILL
Lab Technician-Nutrients Signatory



ANALYTICAL REPORT

PE184125 R1

Parameter	Units	LOR	Sample Number	PE184125.001	PE184125.002	PE184125.003	PE184125.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	T25-MW15	A19-BH-05	A20-GW04	DUP02

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0010	0.0006	<0.0005	0.0010
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctanoic acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	101	100	99	98
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	98	102	104	93
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	100	100	88	96
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	105	109	89	94
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	101	97	89	93
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	103	92	97	96
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	96	108	113	110
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	93	105	99	101
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	89	92	103	92
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	71	86	85	80
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	41	61	69	61
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	87	87	88	84
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	100	99	104	101
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	95	99	94	106
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	72	52	74	82
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	56	110	63	78
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	64	106	67	95
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	107	89	99	93
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	87	124	76	96
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	97	116	104	126
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	95	78	79	91
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	89	86	85	93
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	76	56	76	74
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	77	54	69	76

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025



ANALYTICAL REPORT

PE184125 R1

Parameter	Units	LOR	Sample Number	PE184125.001	PE184125.002	PE184125.003	PE184125.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	T25-MW15	A19-BH-05	A20-GW04	DUP02

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

PE184125 R1

Parameter	Units	LOR	Sample Number	PE184125.001	PE184125.002	PE184125.003	PE184125.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	T25-MW15	A19-BH-05	A20-GW04	DUP02

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	104	104	104	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	112	112	113	113
Dibromofluoromethane (Surrogate)	%	-	107	108	109	111
p-Bromofluorobenzene (Surrogate)	%	-	92	93	94	93

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 11/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05



ANALYTICAL REPORT

PE184125 R1

Parameter	Units	LOR	Sample Number	PE184125.001	PE184125.002	PE184125.003	PE184125.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	T25-MW15	A19-BH-05	A20-GW04	DUP02

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 11/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
Total PAHs	µg/L	8	<8	<8	<8	<8
d14-p-terphenyl (Surrogate)	%	0.001	131	125	121	120
d5-nitrobenzene (Surrogate)	%	0.001	92	98	87	86
d6-phenol (Surrogate)	%	0.001	43	54	50	40
2-fluorobiphenyl (Surrogate)	%	0.001	64	58	53	57
2,4,6-tribromophenol (Surrogate)	%	0.001	109	104	113	104
2-fluorophenol (Surrogate)	%	0.001	116	106	113	92

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 9/7/2025

Aluminium	µg/L	5	<5	6300	<5	<5
Arsenic	µg/L	0.5	2.4	<0.5	<0.5	2.4
Barium	µg/L	0.2	14	210	21	14
Beryllium	µg/L	0.1	<0.1	0.5	<0.1	<0.1
Boron	µg/L	5	23	22	24	24
Cadmium	µg/L	0.05	<0.05	1.0	<0.05	<0.05
Chromium	µg/L	0.5	<0.5	1.8	<0.5	<0.5
Cobalt	µg/L	0.5	<0.5	3.7	1.0	<0.5
Copper	µg/L	0.5	5.0	3.8	2.9	5.0
Iron	µg/L	5	5700	270	45	5900
Lead	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Manganese	µg/L	1	48	560	11	49
Nickel	µg/L	1	3	12	<1	3
Selenium	µg/L	1	<1	<1	<1	<1
Vanadium	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Zinc	µg/L	1	6	22	6	4

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 10/7/2025



ANALYTICAL REPORT

PE184125 R1

Parameter	Units	LOR	Sample Number	PE184125.001	PE184125.002	PE184125.003	PE184125.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	T25-MW15	A19-BH-05	A20-GW04	DUP02

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 10/7/2025 (continued)

Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
---------	------	---------	----------	----------	----------	----------

pH in water Method: AN101 Tested: 4/7/2025

pH**	pH Units	-	6.6	4.4	6.2	6.6
------	----------	---	-----	-----	-----	-----

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 4/7/2025

Conductivity @ 25 C	µS/cm	2	280	340	1100	280
---------------------	-------	---	-----	-----	------	-----

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 9/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	180	230	590	170
---	------	----	-----	-----	-----	-----

Acidity and Free CO2 Method: AN140 Tested: 4/7/2025

Acidity to pH 8.3	mg CaCO3/L	5	17	49	21	14
-------------------	------------	---	----	----	----	----

Alkalinity Method: AN135 Tested: 4/7/2025

Total Alkalinity as CaCO3	mg/L	5	20	<5	15	21
Carbonate Alkalinity as CO3	mg/L	1	<1	<1	<1	<1
Bicarbonate Alkalinity as HCO3	mg/L	5	25	<5	18	25



ANALYTICAL REPORT

PE184125 R1

			Sample Number	PE184125.001	PE184125.002	PE184125.003	PE184125.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	T25-MW15	A19-BH-05	A20-GW04	DUP02
Parameter	Units	LOR					

Chloride by Discrete Analyser in Water Method: AN274 Tested: 14/7/2025

Chloride, Cl	mg/L	1	31	25	300	31
--------------	------	---	----	----	-----	----

Sulfate in water Method: AN275 Tested: 14/7/2025

Sulfate, SO4	mg/L	1	33	36	43	32
--------------	------	---	----	----	----	----

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: AN258 Tested: 8/7/2025

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	3.6	21	<0.05	3.3

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 8/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	0.75	3.1	0.15	0.80
-------------------------	------	------	------	-----	------	------

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 4/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	<0.002	0.003	0.002	<0.002
-------------------------------------	------	-------	--------	-------	-------	--------

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 8/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02	0.09	0.03	0.02
--	------	------	-------	------	------	------



ANALYTICAL REPORT

PE184125 R1

Parameter	Units	LOR	Sample Number	PE184125.001	PE184125.002	PE184125.003	PE184125.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	T25-MW15	A19-BH-05	A20-GW04	DUP02

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 15/7/2025

Total Nitrogen (calc)	mg/L	0.05	4.4	24	0.15	4.1
-----------------------	------	------	-----	----	------	-----

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 8/7/2025

Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	0.24	0.52	<0.05	0.23
--	------	------	------	------	-------	------

Redox Potential (Eh) in water Method: AN240 Tested: 4/7/2025

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	414	429	412	397
Temperature of Sample*	°C	0.1	19.7	19.8	19.6	19.5

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 4/7/2025

Temperature*	°C	-	18.7	18.7	18.2	18.3
Dissolved Oxygen**	mg/L	0.5	3.5	5.6	6.4	3.6
Dissolved Oxygen (percent saturation)**	%	1	37.7	60.8	67.6	38.3

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 9/7/2025

Total Aluminium	µg/L	5	690	7900	220	650
Total Iron	µg/L	5	6400	2000	830	6600



ANALYTICAL REPORT

PE184125 R1

		Sample Number	PE184125.005	PE184125.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	RINS02	FB/TB01
Parameter	Units	LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	<0.0005	<0.0005
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	101	100
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	95	92
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	101	99
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	100	102
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	98	95
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	99	98
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	84	80
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	99	99
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	97	98
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	78	93
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	63	71
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	89	98
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	103	111
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	122	101
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	110	123
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	105	117
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	122	62
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	121	111
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	139	107
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	146	125
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	100	98
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	114	96
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	101	96
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	100	105

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025



ANALYTICAL REPORT

PE184125 R1

		Sample Number	PE184125.005	PE184125.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	RINS02	FB/TB01
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

Benzene	mg/L	0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	-	-
Bromochloromethane	mg/L	0.001	-	-
Bromodichloromethane	mg/L	0.001	-	-
Bromomethane	mg/L	0.001	-	-
n-Butylbenzene	mg/L	0.001	-	-
s-Butylbenzene	mg/L	0.001	-	-
t-Butylbenzene	mg/L	0.001	-	-
Carbon tetrachloride	mg/L	0.001	-	-
Chlorobenzene	mg/L	0.001	-	-
Chloroethane	mg/L	0.001	-	-
Chloromethane	mg/L	0.001	-	-
2-Chlorotoluene	mg/L	0.001	-	-
4-Chlorotoluene	mg/L	0.001	-	-
Dibromochloromethane	mg/L	0.001	-	-
1,2-Dibromo-3-chloropropane	mg/L	0.001	-	-
1,2-Dibromoethane	mg/L	0.001	-	-
Dibromomethane	mg/L	0.001	-	-
1,2-Dichlorobenzene	mg/L	0.001	-	-
1,3-Dichlorobenzene	mg/L	0.001	-	-
1,4-Dichlorobenzene	mg/L	0.001	-	-
Dichlorodifluoromethane	mg/L	0.001	-	-
1,2-Dichloroethane	mg/L	0.001	-	-
1,1-Dichloroethane	mg/L	0.001	-	-
1,1-Dichloroethene	mg/L	0.001	-	-
cis-1,2-Dichloroethene	mg/L	0.001	-	-
trans-1,2-Dichloroethene	mg/L	0.001	-	-
1,2-Dichloroethene	mg/L	0.001	-	-
Dichloromethane (methylene chloride)	mg/L	0.01	-	-
1,2-Dichloropropane	mg/L	0.001	-	-
1,3-Dichloropropane	mg/L	0.001	-	-
2,2-Dichloropropane	mg/L	0.001	-	-
1,1-Dichloropropene	mg/L	0.001	-	-
cis-1,3-Dichloropropene	mg/L	0.001	-	-
trans-1,3-Dichloropropene	mg/L	0.001	-	-
Ethylbenzene	mg/L	0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	-	-
Isopropylbenzene	mg/L	0.001	-	-
p-Isopropyltoluene	mg/L	0.001	-	-
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	-	-
Styrene	mg/L	0.001	-	-
1,1,2,2-Tetrachloroethane	mg/L	0.001	-	-
Tetrachloroethene	mg/L	0.001	-	-
1,1,1,2-Tetrachloroethane	mg/L	0.001	-	-
Toluene	mg/L	0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	-	-
1,2,3-Trichlorobenzene	mg/L	0.001	-	-
1,2,4-Trichlorobenzene	mg/L	0.001	-	-
1,1,1-Trichloroethane	mg/L	0.001	-	-
1,3,5-Trichlorobenzene	mg/L	0.001	-	-
1,1,2-Trichloroethane	mg/L	0.001	-	-
Trichloroethene	mg/L	0.001	-	-
Trichlorofluoromethane	mg/L	0.001	-	-
Trichloromethane	mg/L	0.001	-	-
1,2,3-Trichloropropane	mg/L	0.001	-	-
1,2,4-Trimethylbenzene	mg/L	0.001	-	-
1,3,5-Trimethylbenzene	mg/L	0.001	-	-
Vinyl Chloride	mg/L	0.001	-	-



ANALYTICAL REPORT

PE184125 R1

		Sample Number	PE184125.005	PE184125.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	RINS02	FB/TB01
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	-	-
Total trihalomethanes (THMs)	mg/L	0.002	-	-
Total BTEX	mg/L	0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	112	109
Dibromofluoromethane (Surrogate)	%	-	109	104
p_Bromofluorobenzene (Surrogate)	%	-	93	91

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01



ANALYTICAL REPORT

PE184125 R1

		Sample Number	PE184125.005	PE184125.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	RINS02	FB/TB01
Parameter	Units	LOR		

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 11/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 11/7/2025

Acenaphthene	µg/L	1	-	-
Acenaphthylene	µg/L	1	-	-
Anthracene	µg/L	1	-	-
Benzo(a)anthracene	µg/L	1	-	-
Benzo (a) pyrene	µg/L	1	-	-
Benzo (b) fluoranthene	µg/L	1	-	-
Benzo (ghi) perylene	µg/L	1	-	-
Benzo (k) fluoranthene	µg/L	1	-	-
Benzo (b+j+k) fluoranthene	µg/L	2	-	-
Chrysene	µg/L	1	-	-
Dibenz (ah) anthracene	µg/L	1	-	-
Fluoranthene	µg/L	1	-	-
Fluorene	µg/L	1	-	-
Indeno (1,2,3-cd) pyrene	µg/L	1	-	-
Naphthalene	µg/L	1	-	-
Phenanthrene	µg/L	1	-	-
Pyrene	µg/L	1	-	-
Total PAHs	µg/L	8	-	-
d14-p-terphenyl (Surrogate)	%	0.001	-	-
d5-nitrobenzene (Surrogate)	%	0.001	-	-
d6-phenol (Surrogate)	%	0.001	-	-
2-fluorobiphenyl (Surrogate)	%	0.001	-	-
2,4,6-tribromophenol (Surrogate)	%	0.001	-	-
2-fluorophenol (Surrogate)	%	0.001	-	-

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	-	-
Acrylonitrile*	mg/L	0.05	-	-
Carbon disulphide*	mg/L	0.005	-	-
1-Chloro-2-propene*	mg/L	0.001	-	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	-	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	-	-
2-Hexanone*	mg/L	0.001	-	-
Iodomethane*	mg/L	0.005	-	-
MEK (2-butanone)	mg/L	0.005	-	-
Methyl Isobutyl Ketone*	mg/L	0.005	-	-
Methyl tert-butyl ether*	mg/L	0.001	-	-
Vinyl Acetate*	mg/L	0.01	-	-



ANALYTICAL REPORT

PE184125 R1

		Sample Number	PE184125.005	PE184125.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	RINS02	FB/TB01
Parameter	Units	LOR		

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 9/7/2025

Aluminium	µg/L	5	-	-
Arsenic	µg/L	0.5	<0.5	<0.5
Barium	µg/L	0.2	-	-
Beryllium	µg/L	0.1	-	-
Boron	µg/L	5	-	-
Cadmium	µg/L	0.05	<0.05	<0.05
Chromium	µg/L	0.5	<0.5	<0.5
Cobalt	µg/L	0.5	-	-
Copper	µg/L	0.5	<0.5	<0.5
Iron	µg/L	5	-	-
Lead	µg/L	0.5	<0.5	<0.5
Manganese	µg/L	1	-	-
Nickel	µg/L	1	<1	<1
Selenium	µg/L	1	-	-
Vanadium	µg/L	0.5	-	-
Zinc	µg/L	1	<1	<1

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 10/7/2025

Mercury	mg/L	0.00005	<0.00005	<0.00005
---------	------	---------	----------	----------

pH in water Method: AN101 Tested: 10/7/2025

pH**	pH Units	-	-	-
------	----------	---	---	---

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 10/7/2025

Conductivity @ 25 C	µS/cm	2	-	-
---------------------	-------	---	---	---

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 9/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	-	-
---	------	----	---	---



ANALYTICAL REPORT

PE184125 R1

		Sample Number	PE184125.005	PE184125.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	RINS02	FB/TB01
Parameter	Units	LOR		

Acidity and Free CO₂ Method: AN140 Tested: 10/7/2025

Acidity to pH 8.3	mg CaCO ₃ /L	5	-	-
-------------------	-------------------------	---	---	---

Alkalinity Method: AN135 Tested: 10/7/2025

Total Alkalinity as CaCO ₃	mg/L	5	-	-
Carbonate Alkalinity as CO ₃	mg/L	1	-	-
Bicarbonate Alkalinity as HCO ₃	mg/L	5	-	-

Chloride by Discrete Analyser in Water Method: AN274 Tested: 15/7/2025

Chloride, Cl	mg/L	1	-	-
--------------	------	---	---	---

Sulfate in water Method: AN275 Tested: 15/7/2025

Sulfate, SO ₄	mg/L	1	-	-
--------------------------	------	---	---	---

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA Method: AN258 Tested: 9/7/2025

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	-	-
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	-	-

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 11/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	-	-
-------------------------	------	------	---	---



ANALYTICAL REPORT

PE184125 R1

Parameter	Units	LOR	Sample Number	PE184125.005	PE184125.006
			Sample Matrix	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025
			Sample Name	RINS02	FB/TB01

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 9/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	-	-
-------------------------------------	------	-------	---	---

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 11/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	-	-
--	------	------	---	---

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 15/7/2025

Total Nitrogen (calc)	mg/L	0.05	-	-
-----------------------	------	------	---	---

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 9/7/2025

Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	-	-
--	------	------	---	---

Redox Potential (Eh) in water Method: AN240 Tested: 10/7/2025

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	-	-
Temperature of Sample*	°C	0.1	-	-

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 10/7/2025

Temperature*	°C	-	-	-
Dissolved Oxygen**	mg/L	0.5	-	-
Dissolved Oxygen (percent saturation)**	%	1	-	-



ANALYTICAL REPORT

PE184125 R1

		Sample Number	PE184125.005	PE184125.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	RINS02	FB/TB01
Parameter	Units	LOR		

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 10/7/2025

Total Aluminium	µg/L	5	-	-
Total Iron	µg/L	5	-	-

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.

Acidity and Free CO₂ Method: ME-(AU)-[ENV]AN140

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acidity to pH 8.3	LB231609	mg CaCO ₃ /L	5	<5	0 - 2%	104%

Alkalinity Method: ME-(AU)-[ENV]AN135

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Alkalinity as CaCO ₃	LB231603	mg/L	5	<5	3%	98%
Carbonate Alkalinity as CO ₃	LB231603	mg/L	1	<1		
Bicarbonate Alkalinity as HCO ₃	LB231603	mg/L	5	<5		

Ammonia Nitrogen by FIA Method: ME-(AU)-[ENV]AN261/AN262

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Ammonia Nitrogen, NH ₃ as N	LB231584	mg/L	0.05	<0.05	3%	102%	102%

Chloride by Discrete Analyser in Water Method: ME-(AU)-[ENV]AN274

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Chloride, Cl	LB231815	mg/L	1	<1	NVL	96%	104%

Conductivity and TDS by Calculation - Water Method: ME-(AU)-[ENV]AN106

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Conductivity @ 25 C	LB231547	µS/cm	2	<2	0%	100%

Dissolved Oxygen by Membrane Electrode Method: ME-(AU)-[ENV]AN176

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Temperature*	LB231606	°C	-	19.5		
Dissolved Oxygen**	LB231606	mg/L	0.5	<0.5	0%	115%
Dissolved Oxygen (percent saturation)**	LB231606	%	1	<1.0		

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.

Filterable Reactive Phosphorus (FRP) Method: ME-(AU)-[ENV]AN278

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Filterable Reactive Phosphorus as P	LB231563	mg/L	0.002	<0.002	0%	104%	105%

Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Mercury	LB231696	mg/L	0.00005	<0.00005	0 - 46%	115 - 116%	116 - 120%

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: ME-(AU)-[ENV]AN258

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Nitrite Nitrogen, NO ₂ as N	LB231584	mg/L	0.05	<0.05	0%	98%	92%
Nitrate Nitrogen, NO ₃ as N	LB231584	mg/L	0.05	<0.05	0%	NA	NA

pH in water Method: ME-(AU)-[ENV]AN101

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
pH**	LB231547	pH Units	-	5.5	0%	100%

Redox Potential (Eh) in water Method: ME-(AU)-[ENV]AN240

Parameter	QC Reference	Units	LOR	DUP %RPD	LCS %Recovery
Eh of Sample Relative to Standard H+ Electrode***	LB231604	mV	-500	0%	105%

Sulfate in water Method: ME-(AU)-[ENV]AN275

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Sulfate, SO ₄	LB231815	mg/L	1	<1	5 - 15%	92 - 107%	91%

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.

TKN Kjeldahl Digestion by Discrete Analyser Method: ME-(AU)-[ENV]AN281

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Kjeldahl Nitrogen	LB231593	mg/L	0.05	<0.05	9 - 11%	101%

Total Dissolved Solids (TDS) in water Method: ME-(AU)-[ENV]AN113

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Total Dissolved Solids Dried at 175-185°C	LB231627	mg/L	10	<10	0 - 2%	102%	104%	5%

Total Phosphorus by Kjeldahl Digestion DA in Water Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Phosphorus (Kjeldahl Digestion) as P	LB231592	mg/L	0.02	<0.02	7 - 38%	95%

Trace Metals (Dissolved) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Aluminium	LB231616	µg/L	5	<5	0%	111%	95%
Arsenic	LB231616	µg/L	0.5	<0.5	0%	98%	106%
Barium	LB231616	µg/L	0.2	<0.2		103%	100%
Beryllium	LB231616	µg/L	0.1	<0.1		98%	94%
Boron	LB231616	µg/L	5	<5		101%	113%
Cadmium	LB231616	µg/L	0.05	<0.05	0%	98%	102%
Chromium	LB231616	µg/L	0.5	<0.5	0%	104%	106%
Cobalt	LB231616	µg/L	0.5	<0.5		100%	100%
Copper	LB231616	µg/L	0.5	<0.5		100%	99%
Iron	LB231616	µg/L	5	<5		104%	107%
Lead	LB231616	µg/L	0.5	<0.5	0%	99%	95%
Manganese	LB231616	µg/L	1	<1	0%	98%	97%
Nickel	LB231616	µg/L	1	<1		107%	109%
Selenium	LB231616	µg/L	1	<1	0%	97%	103%
Vanadium	LB231616	µg/L	0.5	<0.5		101%	105%
Zinc	LB231616	µg/L	1	<1	4%	110%	103%



QC SUMMARY

PE184125 R1

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.

Trace Metals (Total) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN022/AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Total Aluminium	LB231614	µg/L	5	<5	1 - 8%	103%	179%
Total Iron	LB231614	µg/L	5	<5	0 - 2%	NA	NA

METHOD

METHODOLOGY SUMMARY

AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
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 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. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN140	Acidity by Titration: The water sample is titrated with sodium hydroxide to designated pH end point. In a sample containing only carbon dioxide, bicarbonates and carbonates, titration to pH 8.3 at 25°C corresponds to stoichiometric neutralisation of carbonic acid to bicarbonate. Method reference APHA 2310 B.
AN176	Dissolved Oxygen: DO can also be measured directly using an oxygen permeable membrane electrode and meter. Under steady state conditions the current is directly proportional to the DO conc. DO can also be measured via Luminescent dissolved oxygen probes (LDO) which also operates using an oxygen permeable membrane with an oxygen sensitive luminescent dye making up the second probe layer. The presence of oxygen causes changes in the lifetime and intensity of luminescence, which are then quantified. Zero headspace is required for sample analysis, if headspace is observed report comment will be recorded. Reference APHA 4500-C, G & O.
AN240	Oxidation-Reduction Potential (Eh): Electrometric measurements are made by potentiometric determination of electron activity (or intensity) with an inert indicator electrode and a suitable reference electrode. At redox equilibrium, the potential difference between the two electrodes equals the redox potential of the system. This measurement is then corrected for the difference between the potential of the reference electrode and that of the standard hydrogen electrode.
AN258	Nitrate and Nitrite by FIA: In an acidic medium, nitrate is reduced quantitatively to nitrite by cadmium metal. This nitrite plus any original nitrite is determined as an intense red-pink azo dye at 540 nm following diazotisation with sulphanilamide and subsequent coupling with N-(1-naphthyl) ethylenediamine dihydrochloride. Without the cadmium reduction only the original nitrite is determined. Reference APHA 4500-NO3- F.
AN262	Ammonia in solution is reacted with o-phthalaldehyde (OPA) to form a fluorescent compound. The reaction product is detected by a fluorimeter and the response is measured via FIA using a photomultiplier detector. The response is directly proportional to the concentration of ammonia in the sample.

METHOD

METHODOLOGY SUMMARY

AN274	Chloride by Discrete Analyse: Chloride reacts with mercuric thiocyanate forming a mercuric chloride complex. In the presence of ferric iron, highly coloured ferric thiocyanate is formed which is proportional to the chloride concentration. Reference APHA 4500CI-
AN275	Sulfate by Discrete Analyse: sulfate is precipitated in an acidic medium with barium chloride. The resulting turbidity is measured photometrically at 405nm and compared with standard calibration solutions to determine the sulfate concentration in the sample. Reference APHA 4500-SO42-. Internal reference AN275.
AN278	Filterable Reactive Phosphorus by DA (determined on filtered sample): Orthophosphate reacts with ammonium molybdate (Mo VI) and potassium antimonyl tartrate (Sb III) in acid medium to form an antimony-phosphomolybdate complex. This complex is subsequently reduced with ascorbic acid to form a blue colour and the absorbance is read at 880 nm. The sensitivity of the automated method is 10-20 times that of the macro method. Reference APHA 4500-P F
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digester with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.
AN281/292	Calculation of total nitrogen and organic nitrogen.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: 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.
AN318	Determination of elements at trace level in waters by ICP-MS technique, referenced to USEPA 6020B and USEPA 200.8 (5.4).
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.
EPA 8260B-01	This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).
EPA8260B	Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

METHOD

METHODOLOGY SUMMARY

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40.

The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions".

Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS)

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC–QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting .

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

PE184125 R1

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 6

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

SGS Reference **PE184125 R1**
Date Received 04 Jul 2025
Date Reported 17 Jul 2025

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:

Surrogate	SVOC Compounds in Waters by GC-QQQ	1 item
Duplicate	Sulfate in water	1 item
Matrix Spike	Trace Metals (Total) in Water by ICPMS TQe	1 item

SAMPLE SUMMARY

Date documentation received	04/072025	Sample counts by matrix	6 Water
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	19.2°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	1		

SGS Australia Pty Ltd
ABN 44 000 964 278

Environment, Health and
Safety

28 Reid Rd Perth Airport WA 6105
PO Box 32 Welshpool WA 6983

Australia t +61 8 9373 3500
Australia f +61 8 9373 3556

www.sgs.com.au



HOLDING TIME SUMMARY

PE184125 R1

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.

Acidity and Free CO₂

Method: ME-(AU)-[ENV]AN140

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231609	04 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025
A19-BH-05	PE184125.002	LB231609	04 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025
A20-GW04	PE184125.003	LB231609	04 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025
DUP02	PE184125.004	LB231609	04 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231603	04 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025
A19-BH-05	PE184125.002	LB231603	04 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025
A20-GW04	PE184125.003	LB231603	04 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025
DUP02	PE184125.004	LB231603	04 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025	18 Jul 2025	04 Jul 2025

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231584	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	08 Jul 2025
A19-BH-05	PE184125.002	LB231584	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	08 Jul 2025
A20-GW04	PE184125.003	LB231584	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	08 Jul 2025
DUP02	PE184125.004	LB231584	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	08 Jul 2025

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231815	04 Jul 2025	04 Jul 2025	01 Aug 2025	14 Jul 2025	01 Aug 2025	15 Jul 2025
A19-BH-05	PE184125.002	LB231815	04 Jul 2025	04 Jul 2025	01 Aug 2025	14 Jul 2025	01 Aug 2025	15 Jul 2025
A20-GW04	PE184125.003	LB231815	04 Jul 2025	04 Jul 2025	01 Aug 2025	14 Jul 2025	01 Aug 2025	15 Jul 2025
DUP02	PE184125.004	LB231815	04 Jul 2025	04 Jul 2025	01 Aug 2025	14 Jul 2025	01 Aug 2025	15 Jul 2025

Conductivity and TDS by Calculation - Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231547	04 Jul 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025
A19-BH-05	PE184125.002	LB231547	04 Jul 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025
A20-GW04	PE184125.003	LB231547	04 Jul 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025
DUP02	PE184125.004	LB231547	04 Jul 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231606	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025
A19-BH-05	PE184125.002	LB231606	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025
A20-GW04	PE184125.003	LB231606	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025
DUP02	PE184125.004	LB231606	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231563	04 Jul 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025
A19-BH-05	PE184125.002	LB231563	04 Jul 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025
A20-GW04	PE184125.003	LB231563	04 Jul 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025
DUP02	PE184125.004	LB231563	04 Jul 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025	01 Aug 2025	04 Jul 2025

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231696	04 Jul 2025	04 Jul 2025	01 Aug 2025	10 Jul 2025	01 Aug 2025	11 Jul 2025
A19-BH-05	PE184125.002	LB231696	04 Jul 2025	04 Jul 2025	01 Aug 2025	10 Jul 2025	01 Aug 2025	11 Jul 2025
A20-GW04	PE184125.003	LB231696	04 Jul 2025	04 Jul 2025	01 Aug 2025	10 Jul 2025	01 Aug 2025	11 Jul 2025
DUP02	PE184125.004	LB231696	04 Jul 2025	04 Jul 2025	01 Aug 2025	10 Jul 2025	01 Aug 2025	11 Jul 2025
RINS02	PE184125.005	LB231696	04 Jul 2025	04 Jul 2025	01 Aug 2025	10 Jul 2025	01 Aug 2025	11 Jul 2025
FB/TB01	PE184125.006	LB231696	04 Jul 2025	04 Jul 2025	01 Aug 2025	10 Jul 2025	01 Aug 2025	11 Jul 2025

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231584	04 Jul 2025	04 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
A19-BH-05	PE184125.002	LB231584	04 Jul 2025	04 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
A20-GW04	PE184125.003	LB231584	04 Jul 2025	04 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
DUP02	PE184125.004	LB231584	04 Jul 2025	04 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025



HOLDING TIME SUMMARY

PE184125 R1

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.

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231547	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025
A19-BH-05	PE184125.002	LB231547	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025
A20-GW04	PE184125.003	LB231547	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025
DUP02	PE184125.004	LB231547	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231604	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025
A19-BH-05	PE184125.002	LB231604	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025
A20-GW04	PE184125.003	LB231604	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025
DUP02	PE184125.004	LB231604	04 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025	05 Jul 2025	04 Jul 2025

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231815	04 Jul 2025	04 Jul 2025	01 Aug 2025	14 Jul 2025	01 Aug 2025	15 Jul 2025
A19-BH-05	PE184125.002	LB231815	04 Jul 2025	04 Jul 2025	01 Aug 2025	14 Jul 2025	01 Aug 2025	15 Jul 2025
A20-GW04	PE184125.003	LB231815	04 Jul 2025	04 Jul 2025	01 Aug 2025	14 Jul 2025	01 Aug 2025	15 Jul 2025
DUP02	PE184125.004	LB231815	04 Jul 2025	04 Jul 2025	01 Aug 2025	14 Jul 2025	01 Aug 2025	15 Jul 2025

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231593	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	11 Jul 2025
A19-BH-05	PE184125.002	LB231593	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	11 Jul 2025
A20-GW04	PE184125.003	LB231593	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	11 Jul 2025
DUP02	PE184125.004	LB231593	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	11 Jul 2025

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231627	04 Jul 2025	04 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025
A19-BH-05	PE184125.002	LB231627	04 Jul 2025	04 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025
A20-GW04	PE184125.003	LB231627	04 Jul 2025	04 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025
DUP02	PE184125.004	LB231627	04 Jul 2025	04 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231592	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	11 Jul 2025
A19-BH-05	PE184125.002	LB231592	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	11 Jul 2025
A20-GW04	PE184125.003	LB231592	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	11 Jul 2025
DUP02	PE184125.004	LB231592	04 Jul 2025	04 Jul 2025	01 Aug 2025	08 Jul 2025	01 Aug 2025	11 Jul 2025

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231616	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	10 Jul 2025
A19-BH-05	PE184125.002	LB231616	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	10 Jul 2025
A20-GW04	PE184125.003	LB231616	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	10 Jul 2025
DUP02	PE184125.004	LB231616	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	10 Jul 2025
RINS02	PE184125.005	LB231616	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	11 Jul 2025
FB/TB01	PE184125.006	LB231616	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	11 Jul 2025

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW15	PE184125.001	LB231614	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	10 Jul 2025
A19-BH-05	PE184125.002	LB231614	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	10 Jul 2025
A20-GW04	PE184125.003	LB231614	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	10 Jul 2025
DUP02	PE184125.004	LB231614	04 Jul 2025	04 Jul 2025	31 Dec 2025	09 Jul 2025	31 Dec 2025	10 Jul 2025



SURROGATES

PE184125 R1

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	71
	A19-BH-05	PE184125.002	%	10 - 150%	86
	A20-GW04	PE184125.003	%	10 - 150%	85
	DUP02	PE184125.004	%	10 - 150%	80
	RINS02	PE184125.005	%	10 - 150%	78
	FB/TB01	PE184125.006	%	10 - 150%	93
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	72
	A19-BH-05	PE184125.002	%	10 - 150%	52
	A20-GW04	PE184125.003	%	10 - 150%	74
	DUP02	PE184125.004	%	10 - 150%	82
	RINS02	PE184125.005	%	10 - 150%	110
	FB/TB01	PE184125.006	%	10 - 150%	123
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	56
	A19-BH-05	PE184125.002	%	10 - 150%	110
	A20-GW04	PE184125.003	%	10 - 150%	63
	DUP02	PE184125.004	%	10 - 150%	78
	RINS02	PE184125.005	%	10 - 150%	105
	FB/TB01	PE184125.006	%	10 - 150%	117
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	64
	A19-BH-05	PE184125.002	%	10 - 150%	106
	A20-GW04	PE184125.003	%	10 - 150%	67
	DUP02	PE184125.004	%	10 - 150%	95
	RINS02	PE184125.005	%	10 - 150%	122
	FB/TB01	PE184125.006	%	10 - 150%	62
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	89
	A19-BH-05	PE184125.002	%	10 - 150%	92
	A20-GW04	PE184125.003	%	10 - 150%	103
	DUP02	PE184125.004	%	10 - 150%	92
	RINS02	PE184125.005	%	10 - 150%	97
	FB/TB01	PE184125.006	%	10 - 150%	98
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	41
	A19-BH-05	PE184125.002	%	10 - 150%	61
	A20-GW04	PE184125.003	%	10 - 150%	69
	DUP02	PE184125.004	%	10 - 150%	61
	RINS02	PE184125.005	%	10 - 150%	63
	FB/TB01	PE184125.006	%	10 - 150%	71
(13C3-PFBs) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	87
	A19-BH-05	PE184125.002	%	10 - 150%	87
	A20-GW04	PE184125.003	%	10 - 150%	88
	DUP02	PE184125.004	%	10 - 150%	84
	RINS02	PE184125.005	%	10 - 150%	89
	FB/TB01	PE184125.006	%	10 - 150%	98
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	100
	A19-BH-05	PE184125.002	%	10 - 150%	99
	A20-GW04	PE184125.003	%	10 - 150%	104
	DUP02	PE184125.004	%	10 - 150%	101
	RINS02	PE184125.005	%	10 - 150%	103
	FB/TB01	PE184125.006	%	10 - 150%	111
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	101
	A19-BH-05	PE184125.002	%	10 - 150%	97
	A20-GW04	PE184125.003	%	10 - 150%	89
	DUP02	PE184125.004	%	10 - 150%	93
	RINS02	PE184125.005	%	10 - 150%	98
	FB/TB01	PE184125.006	%	10 - 150%	95
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	101
	A19-BH-05	PE184125.002	%	10 - 150%	100
	A20-GW04	PE184125.003	%	10 - 150%	99
	DUP02	PE184125.004	%	10 - 150%	98
	RINS02	PE184125.005	%	10 - 150%	101
	FB/TB01	PE184125.006	%	10 - 150%	100
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	105



SURROGATES

PE184125 R1

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	A19-BH-05	PE184125.002	%	10 - 150%	109
	A20-GW04	PE184125.003	%	10 - 150%	89
	DUP02	PE184125.004	%	10 - 150%	94
	RINS02	PE184125.005	%	10 - 150%	100
	FB/TB01	PE184125.006	%	10 - 150%	102
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	100
	A19-BH-05	PE184125.002	%	10 - 150%	100
	A20-GW04	PE184125.003	%	10 - 150%	88
	DUP02	PE184125.004	%	10 - 150%	96
	RINS02	PE184125.005	%	10 - 150%	101
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	FB/TB01	PE184125.006	%	10 - 150%	99
	T25-MW15	PE184125.001	%	10 - 150%	98
	A19-BH-05	PE184125.002	%	10 - 150%	102
	A20-GW04	PE184125.003	%	10 - 150%	104
	DUP02	PE184125.004	%	10 - 150%	93
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	RINS02	PE184125.005	%	10 - 150%	95
	FB/TB01	PE184125.006	%	10 - 150%	92
	T25-MW15	PE184125.001	%	10 - 150%	96
	A19-BH-05	PE184125.002	%	10 - 150%	108
	A20-GW04	PE184125.003	%	10 - 150%	113
(13C7-PFUA) Isotopically Labelled Internal Recovery Standard	DUP02	PE184125.004	%	10 - 150%	110
	RINS02	PE184125.005	%	10 - 150%	84
	FB/TB01	PE184125.006	%	10 - 150%	80
	T25-MW15	PE184125.001	%	10 - 150%	93
	A19-BH-05	PE184125.002	%	10 - 150%	105
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	A20-GW04	PE184125.003	%	10 - 150%	99
	DUP02	PE184125.004	%	10 - 150%	101
	RINS02	PE184125.005	%	10 - 150%	99
	FB/TB01	PE184125.006	%	10 - 150%	99
	T25-MW15	PE184125.001	%	10 - 150%	95
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	A19-BH-05	PE184125.002	%	10 - 150%	99
	A20-GW04	PE184125.003	%	10 - 150%	94
	DUP02	PE184125.004	%	10 - 150%	106
	RINS02	PE184125.005	%	10 - 150%	122
	FB/TB01	PE184125.006	%	10 - 150%	101
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	107
	A19-BH-05	PE184125.002	%	10 - 150%	89
	A20-GW04	PE184125.003	%	10 - 150%	99
	DUP02	PE184125.004	%	10 - 150%	93
	RINS02	PE184125.005	%	10 - 150%	121
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	FB/TB01	PE184125.006	%	10 - 150%	111
	T25-MW15	PE184125.001	%	10 - 150%	103
	A19-BH-05	PE184125.002	%	10 - 150%	92
	A20-GW04	PE184125.003	%	10 - 150%	97
	DUP02	PE184125.004	%	10 - 150%	96
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	RINS02	PE184125.005	%	10 - 150%	99
	FB/TB01	PE184125.006	%	10 - 150%	98
	T25-MW15	PE184125.001	%	10 - 150%	87
	A19-BH-05	PE184125.002	%	10 - 150%	124
	A20-GW04	PE184125.003	%	10 - 150%	76
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	DUP02	PE184125.004	%	10 - 150%	96
	RINS02	PE184125.005	%	10 - 150%	139
	FB/TB01	PE184125.006	%	10 - 150%	107
	T25-MW15	PE184125.001	%	10 - 150%	76
	A19-BH-05	PE184125.002	%	10 - 150%	56
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	A20-GW04	PE184125.003	%	10 - 150%	76
	DUP02	PE184125.004	%	10 - 150%	74
	RINS02	PE184125.005	%	10 - 150%	101
	FB/TB01	PE184125.006	%	10 - 150%	96
	T25-MW15	PE184125.001	%	10 - 150%	97
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	A19-BH-05	PE184125.002	%	10 - 150%	116



SURROGATES

PE184125 R1

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	A20-GW04	PE184125.003	%	10 - 150%	104
	DUP02	PE184125.004	%	10 - 150%	126
	RINS02	PE184125.005	%	10 - 150%	146
	FB/TB01	PE184125.006	%	10 - 150%	125
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	77
	A19-BH-05	PE184125.002	%	10 - 150%	54
	A20-GW04	PE184125.003	%	10 - 150%	69
	DUP02	PE184125.004	%	10 - 150%	76
	RINS02	PE184125.005	%	10 - 150%	100
	FB/TB01	PE184125.006	%	10 - 150%	105
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	95
	A19-BH-05	PE184125.002	%	10 - 150%	78
	A20-GW04	PE184125.003	%	10 - 150%	79
	DUP02	PE184125.004	%	10 - 150%	91
	RINS02	PE184125.005	%	10 - 150%	100
	FB/TB01	PE184125.006	%	10 - 150%	98
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	T25-MW15	PE184125.001	%	10 - 150%	89
	A19-BH-05	PE184125.002	%	10 - 150%	86
	A20-GW04	PE184125.003	%	10 - 150%	85
	DUP02	PE184125.004	%	10 - 150%	93
	RINS02	PE184125.005	%	10 - 150%	114
	FB/TB01	PE184125.006	%	10 - 150%	96

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	T25-MW15	PE184125.001	%	40 - 130%	109
	A19-BH-05	PE184125.002	%	40 - 130%	104
	A20-GW04	PE184125.003	%	40 - 130%	113
	DUP02	PE184125.004	%	40 - 130%	104
2-fluorobiphenyl (Surrogate)	T25-MW15	PE184125.001	%	40 - 130%	64
	A19-BH-05	PE184125.002	%	40 - 130%	58
	A20-GW04	PE184125.003	%	40 - 130%	53
	DUP02	PE184125.004	%	40 - 130%	57
2-fluorophenol (Surrogate)	T25-MW15	PE184125.001	%	40 - 130%	116
	A19-BH-05	PE184125.002	%	40 - 130%	106
	A20-GW04	PE184125.003	%	40 - 130%	113
	DUP02	PE184125.004	%	40 - 130%	92
d14-p-terphenyl (Surrogate)	T25-MW15	PE184125.001	%	40 - 130%	131 ↑
	A19-BH-05	PE184125.002	%	40 - 130%	125
	A20-GW04	PE184125.003	%	40 - 130%	121
	DUP02	PE184125.004	%	40 - 130%	120
d5-nitrobenzene (Surrogate)	T25-MW15	PE184125.001	%	40 - 130%	92
	A19-BH-05	PE184125.002	%	40 - 130%	98
	A20-GW04	PE184125.003	%	40 - 130%	87
	DUP02	PE184125.004	%	40 - 130%	86
d6-phenol (Surrogate)	T25-MW15	PE184125.001	%	40 - 130%	43
	A19-BH-05	PE184125.002	%	40 - 130%	54
	A20-GW04	PE184125.003	%	40 - 130%	50
	DUP02	PE184125.004	%	40 - 130%	40

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	T25-MW15	PE184125.001	%	60 - 130%	112
	A19-BH-05	PE184125.002	%	60 - 130%	112
	A20-GW04	PE184125.003	%	60 - 130%	113
	DUP02	PE184125.004	%	60 - 130%	113
	RINS02	PE184125.005	%	60 - 130%	112
	FB/TB01	PE184125.006	%	60 - 130%	109
Dibromofluoromethane (Surrogate)	T25-MW15	PE184125.001	%	60 - 130%	107
	A19-BH-05	PE184125.002	%	60 - 130%	108
	A20-GW04	PE184125.003	%	60 - 130%	109
	DUP02	PE184125.004	%	60 - 130%	111



SURROGATES

PE184125 R1

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Dibromofluoromethane (Surrogate)	RINS02	PE184125.005	%	60 - 130%	109
	FB/TB01	PE184125.006	%	60 - 130%	104
p_Bromofluorobenzene (Surrogate)	T25-MW15	PE184125.001	%	60 - 130%	92
	A19-BH-05	PE184125.002	%	60 - 130%	93
	A20-GW04	PE184125.003	%	60 - 130%	94
	DUP02	PE184125.004	%	60 - 130%	93
	RINS02	PE184125.005	%	60 - 130%	93
	FB/TB01	PE184125.006	%	60 - 130%	91
Toluene-d8 (surrogate)	T25-MW15	PE184125.001	%	60 - 130%	104
	A19-BH-05	PE184125.002	%	60 - 130%	104
	A20-GW04	PE184125.003	%	60 - 130%	104
	DUP02	PE184125.004	%	60 - 130%	103
	RINS02	PE184125.005	%	60 - 130%	103
	FB/TB01	PE184125.006	%	60 - 130%	103



METHOD BLANKS

PE184125 R1

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.

Acidity and Free CO2

Method: ME-(AU)-[ENV]AN140

Sample Number	Parameter	Units	LOR	Result
LB231609.001	Acidity to pH 8.3	mg CaCO ₃ /L	5	<5

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB231603.001	Total Alkalinity as CaCO ₃	mg/L	5	<5

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Number	Parameter	Units	LOR	Result
LB231584.001	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	<0.05

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result
LB231815.001	Chloride, Cl	mg/L	1	<1
LB231815.025	Chloride, Cl	mg/L	1	<1
LB231815.049	Chloride, Cl	mg/L	1	<1

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result
LB231547.001	Conductivity @ 25 C	µS/cm	2	<2

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Number	Parameter	Units	LOR	Result
LB231606.001	Dissolved Oxygen**	mg/L	0.5	<0.5

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result
LB231563.001	Filterable Reactive Phosphorus as P	mg/L	0.002	<0.002

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB231696.001	Mercury	mg/L	0.00005	<0.00005
LB231696.026	Mercury	mg/L	0.00005	<0.00005

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Number	Parameter	Units	LOR	Result
LB231584.001	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05
	Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result
LB231547.001	pH**	pH Units	-	5.5

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR	Result
LB231815.001	Sulfate, SO ₄	mg/L	1	<1
LB231815.025	Sulfate, SO ₄	mg/L	1	<1
LB231815.049	Sulfate, SO ₄	mg/L	1	<1

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR
---------------	-----------	-------	-----



METHOD BLANKS

PE184125 R1

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.

TKN Kjeldahl Digestion by Discrete Analyser (continued)

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result
LB231593.001	Total Kjeldahl Nitrogen	mg/L	0.05	<0.05

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result
LB231627.001	Total Dissolved Solids Dried at 175-185°C	mg/L	10	<10

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result
LB231592.001	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB231616.001	Aluminium	µg/L	5	<5
	Arsenic	µg/L	0.5	<0.5
	Barium	µg/L	0.2	<0.2
	Beryllium	µg/L	0.1	<0.1
	Boron	µg/L	5	<5
	Cadmium	µg/L	0.05	<0.05
	Chromium	µg/L	0.5	<0.5
	Cobalt	µg/L	0.5	<0.5
	Copper	µg/L	0.5	<0.5
	Iron	µg/L	5	<5
	Lead	µg/L	0.5	<0.5
	Manganese	µg/L	1	<1
	Nickel	µg/L	1	<1
	Selenium	µg/L	1	<1
	Vanadium	µg/L	0.5	<0.5
	Zinc	µg/L	1	<1

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB231614.001	Total Aluminium	µg/L	5	<5

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.

Acidity and Free CO2

Method: ME-(AU)-[ENV]JAN140

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.007	LB231609.013	Acidity to pH 8.3	mg CaCO3/L	5	8	8	76	2
PE184086.014	LB231609.021	Acidity to pH 8.3	mg CaCO3/L	5	<5	<5	200	0

Alkalinity

Method: ME-(AU)-[ENV]JAN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184104.004	LB231603.010	Total Alkalinity as CaCO3	mg/L	5	26	27	34	3

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]JAN261/AN262

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184125.004	LB231584.008	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	0.23	0.24	36	3

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]JAN274

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183170B.005	LB231815.014	Chloride, Cl	mg/L	1	87	94	16	8
PE184202.001	LB231815.040	Chloride, Cl	mg/L	1	NVL	NVL	NVL	NVL
PE184240.001	LB231815.053	Chloride, Cl	mg/L	1	190	190	16	2

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]JAN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184104.004	LB231547.010	Conductivity @ 25 C	µS/cm	2	340	340	16	0

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]JAN176

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231606.013	Dissolved Oxygen**	mg/L	0.5	7.0	7.0	22	0
PE184125.004	LB231606.027	Dissolved Oxygen**	mg/L	0.5	3.6	3.6	29	0

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]JAN278

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.010	LB231563.025	Filterable Reactive Phosphorus as P	mg/L	0.002	0.003	0.004	152	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]JAN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183170B.005	LB231696.014	Mercury	µg/L	0.00005	<0.00005	<0.00005	200	0
PE184079.001	LB231696.041	Mercury	µg/L	0.00005	<0.00005	<0.00005	200	0
PE184202.006	LB231696.029	Mercury	µg/L	0.00005	<0.00005	<0.00005	200	46

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]JAN258

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184125.004	LB231584.008	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	200	0
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	3.3	3.3	17	0

pH in water

Method: ME-(AU)-[ENV]JAN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184104.004	LB231547.009	pH**	pH Units	-	7.1	7.1	16	0

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]JAN240

Original	Duplicate	Parameter	Units	LOR
----------	-----------	-----------	-------	-----

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.

Redox Potential (Eh) in water (continued)

Method: ME-(AU)-[ENV]AN240

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231604.013	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	362	362	15	0
PE184086.014	LB231604.021	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	346	348	15	0

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183170B.005	LB231815.014	Sulfate, SO4	mg/L	1	62	65	17	4
PE184202.001	LB231815.041	Sulfate, SO4	mg/L	1	220	260	15	15 +
PE184241.001	LB231815.056	Sulfate, SO4	mg/L	1	48	50	17	5

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.010	LB231593.013	Total Kjeldahl Nitrogen	mg/L	0.05	0.99	0.91	20	9
PE184104.004	LB231593.024	Total Kjeldahl Nitrogen	mg/L	0.05	1.0	0.95	20	7
PE184125.003	LB231593.031	Total Kjeldahl Nitrogen	mg/L	0.05	0.15	0.17	47	11

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184085.001	LB231627.015	Total Dissolved Solids Dried at 175-185°C	mg/L	10	590	590	17	0
PE184194.001	LB231627.026	Total Dissolved Solids Dried at 175-185°C	mg/L	10	430	430	17	2

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.010	LB231592.013	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.12	0.11	33	6
PE184104.004	LB231592.024	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.13	0.14	30	7
PE184125.003	LB231592.031	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.03	0.05	63	38

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184189.001	LB231616.015	Aluminium	µg/L	5	<5	<5	200	0
		Arsenic	µg/L	0.5	<0.5	<0.5	200	0
		Cadmium	µg/L	0.05	<0.05	<0.05	200	0
		Chromium	µg/L	0.5	<0.5	<0.5	200	0
		Lead	µg/L	0.5	<0.5	<0.5	200	0
		Manganese	µg/L	1	<1	<1	200	0
		Selenium	µg/L	1	<1	<1	200	0
		Zinc	µg/L	1	2	2	78	4

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.008	LB231614.014	Total Aluminium	µg/L	5	300	330	17	8
		Total Iron	µg/L	5	3600	3600	15	2
PE184125.004	LB231614.026	Total Aluminium	µg/L	5	650	650	16	1
		Total Iron	µg/L	5	6600	6600	15	0



LABORATORY CONTROL SAMPLES

PE184125 R1

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.

Acidity and Free CO₂

Method: ME-(AU)-[ENV]AN140

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231609.002	Acidity to pH 8.3	mg CaCO ₃ /L	5	260	250	85 - 115	104

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231603.002	Total Alkalinity as CaCO ₃	mg/L	5	230	229	85 - 115	98

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231584.002	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	4.1	4	85 - 115	102

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231815.002	Chloride, Cl	mg/L	1	19	20	85 - 115	96
LB231815.026	Chloride, Cl	mg/L	1	19	20	85 - 115	96
LB231815.050	Chloride, Cl	mg/L	1	19	20	85 - 115	96

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231547.002	Conductivity @ 25 C	µS/cm	2	300	303	90 - 110	100
LB231547.003	Conductivity @ 25 C	µS/cm	2	1000	1015	90 - 110	100

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231606.002	Dissolved Oxygen**	mg/L	0.5	9.8	8.5	88 - 118	115

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231563.002	Filterable Reactive Phosphorus as P	mg/L	0.002	0.052	0.05	80 - 120	104

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231696.002	Mercury	mg/L	0.00005	0.0029	0.0025	80 - 120	116
LB231696.027	Mercury	mg/L	0.00005	0.0029	0.0025	80 - 120	115

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231584.002	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.9	4	85 - 115	98

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231547.002	pH**	pH Units	-	7.4	7.4	98 - 102	100

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231604.001	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	448	428	90 - 110	105

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR
---------------	-----------	-------	-----



LABORATORY CONTROL SAMPLES

PE184125 R1

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.

Sulfate in water (continued)

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231815.002	Sulfate, SO4	mg/L	1	9	10	80 - 120	92
LB231815.027	Sulfate, SO4	mg/L	1	11	10	80 - 120	107
LB231815.052	Sulfate, SO4	mg/L	1	11	10	80 - 120	107

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231593.002	Total Kjeldahl Nitrogen	mg/L	0.05	1.0	1	80 - 120	101

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231627.002	Total Dissolved Solids Dried at 175-185°C	mg/L	10	300	291	85 - 115	102

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231592.002	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.48	0.5	80 - 120	95

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231616.002	Aluminium	µg/L	5	11	10	80 - 120	111
	Arsenic	µg/L	0.5	9.8	10	80 - 120	98
	Barium	µg/L	0.2	10	10	80 - 120	103
	Beryllium	µg/L	0.1	9.8	10	80 - 120	98
	Boron	µg/L	5	10	10	80 - 120	101
	Cadmium	µg/L	0.05	9.8	10	80 - 120	98
	Chromium	µg/L	0.5	10	10	80 - 120	104
	Cobalt	µg/L	0.5	10	10	80 - 120	100
	Copper	µg/L	0.5	10	10	80 - 120	100
	Iron	µg/L	5	10	10	80 - 120	104
	Lead	µg/L	0.5	9.9	10	80 - 120	99
	Manganese	µg/L	1	10	10	80 - 120	98
	Nickel	µg/L	1	11	10	80 - 120	107
	Selenium	µg/L	1	10	10	80 - 120	97
	Vanadium	µg/L	0.5	10	10	80 - 120	101
	Zinc	µg/L	1	11	10	80 - 120	110

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231614.002	Total Aluminium	µg/L	5	10	10	80 - 120	103

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.

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.003	LB231584.006	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	0.82	<0.05	0.8	102

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.001	LB231815.004	Chloride, Cl	mg/L	1	140	31	100	104

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.003	LB231563.004	Filterable Reactive Phosphorus as P	mg/L	0.002	0.054	0.002	0.05	105

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.001	LB231696.004	Mercury	mg/L	0.00005	0.0023	<0.00005	0.0025	116
PE184202.008	LB231696.031	Mercury	mg/L	0.00005	0.0024	-0.011	0.0025	120

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA

Method: ME-(AU)-[ENV]AN258

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.003	LB231584.006	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.7	<0.05	4	92
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05	<0.05	-	-

Sulfate in water

Method: ME-(AU)-[ENV]AN275

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.001	LB231815.004	Sulfate, SO ₄	mg/L	1	120	33	100	91

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184086.007	LB231627.004	Total Dissolved Solids Dried at 175-185°C	mg/L	10	1600	520	1000	104

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184093.001	LB231616.004	Aluminium	µg/L	5	66	56	10	95
		Arsenic	µg/L	0.5	11	0.6	10	106
		Barium	µg/L	0.2	27	17	10	100
		Beryllium	µg/L	0.1	9.4	<0.1	10	94
		Boron	µg/L	5	37	25	10	113
		Cadmium	µg/L	0.05	10	<0.05	10	102
		Chromium	µg/L	0.5	11	<0.5	10	106
		Cobalt	µg/L	0.5	10	<0.5	10	100
		Copper	µg/L	0.5	12	2.4	10	99
		Iron	µg/L	5	110	100	10	107
		Lead	µg/L	0.5	9.6	<0.5	10	95
		Manganese	µg/L	1	10	<1	10	97
		Nickel	µg/L	1	11	<1	10	109
		Selenium	µg/L	1	10	<1	10	103
		Vanadium	µg/L	0.5	12	1.2	10	105
		Zinc	µg/L	1	14	3	10	103

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR
-----------	---------------	-----------	-------	-----



MATRIX SPIKES

PE184125 R1

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.

Trace Metals (Total) in Water by ICPMS TQe (continued)

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184085.001	LB231614.004	Total Aluminium	µg/L	5	1900	1900	10	179 ⓘ
		Total Iron	µg/L	5	2400	2600	-	-



MATRIX SPIKE DUPLICATES

PE184125 R1

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.

Total Dissolved Solids (TDS) in water					Method: ME-(AU)-ENVJAN113			
QC Sample	Sample Number	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184086.007	LB231627.005	Total Dissolved Solids Dried at 175-185°C	mg/L	10	1600	1500	16	5



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 Low surrogate recovery due to the sample emulsifying during extraction.
- † Refer to relevant report comments for further information.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.



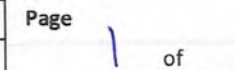
Received: 04-Jul-2025



CHAIN OF CUSTODY RECORD

Page 1 of 1

[illegible]

Page 1 of 1



ANALYTICAL REPORT



Accreditation No. 2562

CLIENT DETAILS

Contact SGS Environmental Perth
Client SGS I&E EHS PERTH AIRPORT
Address 28 Reid Road
Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
Facsimile +61 (0)8 9373 3556
Email au.environmental.subcon@sgs.com

Project **P25.045**
Order Number **PE184125**
Samples 6

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 **ME373477 R0**
Date Received 09 Jul 2025
Date Reported 11 Jul 2025

COMMENTS

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

<8270>Majority of surrogate recoveries are within acceptance criteria.

SIGNATORIES

Adam ATKINSON
Australian Chemistry Manager

Andrew WRIGHT
LC/VOC Team Leader

Nicholas HORA
Senior Laboratory Technician



ANALYTICAL REPORT

ME373477 R0

		Sample Number	ME373477.001	ME373477.002	ME373477.003	ME373477.004
		Sample Matrix	Water	Water	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
		Sample Name	PE184125.001	PE184125.002	PE184125.003	PE184125.004
Parameter	Units	LOR				

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 9/7/2025

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373477 R0

Parameter	Units	LOR	Sample Number	ME373477.001	ME373477.002	ME373477.003	ME373477.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	PE184125.001	PE184125.002	PE184125.003	PE184125.004

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 9/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	104	104	104	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	112	112	113	113
Dibromofluoromethane (Surrogate)	%	-	107	108	109	111
p_Bromofluorobenzene (Surrogate)	%	-	92	93	94	93

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 9/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 9/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
d14-p-terphenyl (Surrogate)	%	0.001	131	125	121	120
d5-nitrobenzene (Surrogate)	%	0.001	92	98	87	86
d6-phenol (Surrogate)	%	0.001	43	54	50	40
2-fluorobiphenyl (Surrogate)	%	0.001	64	58	53	57
2,4,6-tribromophenol (Surrogate)	%	0.001	109	104	113	104
2-fluorophenol (Surrogate)	%	0.001	116	106	113	92

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 10/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0010	0.0006	<0.0005	0.0010
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373477 R0

Parameter	Units	LOR	Sample Number	ME373477.001	ME373477.002	ME373477.003	ME373477.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	PE184125.001	PE184125.002	PE184125.003	PE184125.004

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 10/7/2025 (continued)

Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	101	100	99	98
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	98	102	104	93
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	100	100	88	96
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	105	109	89	94
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	101	97	89	93
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	103	92	97	96
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	96	108	113	110
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	93	105	99	101
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	89	92	103	92
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	71	86	85	80
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	41	61	69	61
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	87	87	88	84
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	100	99	104	101
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	95	99	94	106
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	72	52	74	82
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	56	110	63	78
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	64	106	67	95
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	107	89	99	93
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	87	124	76	96
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	97	116	104	126
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	95	78	79	91
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	89	86	85	93
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	76	56	76	74
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	77	54	69	76

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands



ANALYTICAL REPORT

ME373477 R0

			Sample Number	ME373477.001	ME373477.002	ME373477.003	ME373477.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	04 Jul 2025	04 Jul 2025	04 Jul 2025	04 Jul 2025
			Sample Name	PE184125.001	PE184125.002	PE184125.003	PE184125.004
Parameter	Units	LOR					

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025 (continued)

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

VPH in Water MA-30 Method: MA30-VPH Tested: 9/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01



ANALYTICAL REPORT

ME373477 R0

		Sample Number	ME373477.005	ME373477.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	PE184125.005	PE184125.006
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 9/7/2025

Benzene	mg/L	0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	-	-
Bromochloromethane	mg/L	0.001	-	-
Bromodichloromethane	mg/L	0.001	-	-
Bromomethane	mg/L	0.001	-	-
n-Butylbenzene	mg/L	0.001	-	-
s-Butylbenzene	mg/L	0.001	-	-
t-Butylbenzene	mg/L	0.001	-	-
Carbon tetrachloride	mg/L	0.001	-	-
Chlorobenzene	mg/L	0.001	-	-
Chloroethane	mg/L	0.001	-	-
Chloromethane	mg/L	0.001	-	-
2-Chlorotoluene	mg/L	0.001	-	-
4-Chlorotoluene	mg/L	0.001	-	-
Dibromochloromethane	mg/L	0.001	-	-
1,2-Dibromo-3-chloropropane	mg/L	0.001	-	-
1,2-Dibromoethane	mg/L	0.001	-	-
Dibromomethane	mg/L	0.001	-	-
1,2-Dichlorobenzene	mg/L	0.001	-	-
1,3-Dichlorobenzene	mg/L	0.001	-	-
1,4-Dichlorobenzene	mg/L	0.001	-	-
Dichlorodifluoromethane	mg/L	0.001	-	-
1,2-Dichloroethane	mg/L	0.001	-	-
1,1-Dichloroethane	mg/L	0.001	-	-
1,1-Dichloroethene	mg/L	0.001	-	-
cis-1,2-Dichloroethene	mg/L	0.001	-	-
trans-1,2-Dichloroethene	mg/L	0.001	-	-
1,2-Dichloroethene	mg/L	0.001	-	-
Dichloromethane (methylene chloride)	mg/L	0.01	-	-
1,2-Dichloropropane	mg/L	0.001	-	-
1,3-Dichloropropane	mg/L	0.001	-	-
2,2-Dichloropropane	mg/L	0.001	-	-
1,1-Dichloropropene	mg/L	0.001	-	-
cis-1,3-Dichloropropene	mg/L	0.001	-	-
trans-1,3-Dichloropropene	mg/L	0.001	-	-
Ethylbenzene	mg/L	0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	-	-
Isopropylbenzene	mg/L	0.001	-	-
p-Isopropyltoluene	mg/L	0.001	-	-
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	-	-
Styrene	mg/L	0.001	-	-
1,1,2,2-Tetrachloroethane	mg/L	0.001	-	-
Tetrachloroethene	mg/L	0.001	-	-
1,1,1,2-Tetrachloroethane	mg/L	0.001	-	-
Toluene	mg/L	0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	-	-
1,2,3-Trichlorobenzene	mg/L	0.001	-	-
1,2,4-Trichlorobenzene	mg/L	0.001	-	-
1,1,1-Trichloroethane	mg/L	0.001	-	-
1,3,5-Trichlorobenzene	mg/L	0.001	-	-
1,1,2-Trichloroethane	mg/L	0.001	-	-
Trichloroethene	mg/L	0.001	-	-
Trichlorofluoromethane	mg/L	0.001	-	-
Trichloromethane	mg/L	0.001	-	-
1,2,3-Trichloropropane	mg/L	0.001	-	-
1,2,4-Trimethylbenzene	mg/L	0.001	-	-
1,3,5-Trimethylbenzene	mg/L	0.001	-	-
Vinyl Chloride	mg/L	0.001	-	-



ANALYTICAL REPORT

ME373477 R0

		Sample Number	ME373477.005	ME373477.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	PE184125.005	PE184125.006
Parameter	Units	LOR		

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 9/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	-	-
Total trihalomethanes (THMs)	mg/L	0.002	-	-
Total BTEX	mg/L	0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	103	103
1,2-Dichloroethane_D4 (Surrogate)	%	-	112	109
Dibromofluoromethane (Surrogate)	%	-	109	104
p_Bromofluorobenzene (Surrogate)	%	-	93	91

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 10/7/2025

Acetone*	mg/L	0.02	-	-
Acrylonitrile*	mg/L	0.05	-	-
Carbon disulphide*	mg/L	0.005	-	-
1-Chloro-2-propene*	mg/L	0.001	-	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	-	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	-	-
2-Hexanone*	mg/L	0.001	-	-
Iodomethane*	mg/L	0.005	-	-
MEK (2-butanone)	mg/L	0.005	-	-
Methyl Isobutyl Ketone*	mg/L	0.005	-	-
Methyl tert-butyl ether*	mg/L	0.001	-	-
Vinyl Acetate*	mg/L	0.01	-	-



ANALYTICAL REPORT

ME373477 R0

		Sample Number	ME373477.005	ME373477.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	PE184125.005	PE184125.006
Parameter	Units	LOR		

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 11/7/2025

Acenaphthene	µg/L	1	-	-
Acenaphthylene	µg/L	1	-	-
Anthracene	µg/L	1	-	-
Benzo(a)anthracene	µg/L	1	-	-
Benzo (a) pyrene	µg/L	1	-	-
Benzo (b) fluoranthene	µg/L	1	-	-
Benzo (ghi) perylene	µg/L	1	-	-
Benzo (k) fluoranthene	µg/L	1	-	-
Benzo (b+j+k) fluoranthene	µg/L	2	-	-
Chrysene	µg/L	1	-	-
Dibenz (ah) anthracene	µg/L	1	-	-
Fluoranthene	µg/L	1	-	-
Fluorene	µg/L	1	-	-
Indeno (1,2,3-cd) pyrene	µg/L	1	-	-
Naphthalene	µg/L	1	-	-
Phenanthrene	µg/L	1	-	-
Pyrene	µg/L	1	-	-
d14-p-terphenyl (Surrogate)	%	0.001	-	-
d5-nitrobenzene (Surrogate)	%	0.001	-	-
d6-phenol (Surrogate)	%	0.001	-	-
2-fluorobiphenyl (Surrogate)	%	0.001	-	-
2,4,6-tribromophenol (Surrogate)	%	0.001	-	-
2-fluorophenol (Surrogate)	%	0.001	-	-

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 10/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	<0.0005	<0.0005
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	101	100



ANALYTICAL REPORT

ME373477 R0

		Sample Number	ME373477.005	ME373477.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	PE184125.005	PE184125.006
Parameter	Units	LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 10/7/2025 (continued)

(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	95	92
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	101	99
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	100	102
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	98	95
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	99	98
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	84	80
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	99	99
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	97	98
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	78	93
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	63	71
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	89	98
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	103	111
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	122	101
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	110	123
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	105	117
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	122	62
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	121	111
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	139	107
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	146	125
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	100	98
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	114	96
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	101	96
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	100	105

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 9/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05



ANALYTICAL REPORT

ME373477 R0

		Sample Number	ME373477.005	ME373477.006
		Sample Matrix	Water	Water
		Sample Date	04 Jul 2025	04 Jul 2025
		Sample Name	PE184125.005	PE184125.006
Parameter	Units	LOR		

VPH in Water MA-30 Method: MA30-VPH Tested: 9/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01



QC SUMMARY

ME373477 R0

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB091799	µg/L	0.0005	<0.0005	12%	NA
Perfluoropentanoic acid (PFPeA)	LB091799	µg/L	0.0005	<0.0005	0%	NA
Perfluorohexanoic acid (PFHxA)	LB091799	µg/L	0.0005	<0.0005	0 - 17%	NA
Perfluoroheptanoic acid (PFHpA)	LB091799	µg/L	0.0005	<0.0005	0%	64%
Perfluorooctanoic Acid (PFOA)	LB091799	µg/L	0.0002	<0.0002	0 - 24%	81%
Perfluorononanoic acid (PFNA)	LB091799	µg/L	0.001	<0.001	0%	71%
Perfluorodecanoic acid (PFDA)	LB091799	µg/L	0.001	<0.001	0%	82%
Perfluoroundecanoic acid (PFUnA)	LB091799	µg/L	0.001	<0.001	0%	72%
Perfluorododecanoic acid (PFDoA)	LB091799	µg/L	0.001	<0.001	0%	78%
Perfluorotridecanoic acid (PFTriDA)	LB091799	µg/L	0.001	<0.001	0%	80%
Perfluorotetradecanoic acid (PFTeDA)	LB091799	µg/L	0.001	<0.001	0%	75%
Perfluorohexadecanoic acid (PFHxDA)	LB091799	µg/L	0.002	<0.002	0%	NA
Perfluorobutane sulfonate (PFBS)	LB091799	µg/L	0.001	<0.001	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB091799	µg/L	0.001	<0.001	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB091799	µg/L	0.0002	<0.0002	0%	NA
Perfluoroheptane sulfonate (PFHpS)	LB091799	µg/L	0.0002	<0.0002	0%	NA
Perfluorooctane sulfonate (PFOS)	LB091799	µg/L	0.0002	<0.0002	0%	72%
Sum of PFHxS and PFOS	LB091799	µg/L	0.0002	<0.0002	0%	NA
Perfluorononane sulfonate (PFNS)	LB091799	µg/L	0.0005	<0.0005	0%	NA
Perfluorodecane sulfonate (PFDS)	LB091799	µg/L	0.0005	<0.0005	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB091799	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB091799	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB091799	µg/L	0.0005	<0.0005	0 - 14%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB091799	µg/L	0.0005	<0.0005	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB091799	µg/L	0.002	<0.002	0%	49%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB091799	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB091799	µg/L	0.0025	<0.0025	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB091799	µg/L	0.0025	<0.0025	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB091799	µg/L	0.0025	<0.0025	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N_MeFOSAA)	LB091799	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB091799	µg/L	0.0025	<0.0025	0%	NA
Total PFAS (n=30)	LB091799	µg/L	0.006	<0.0060		
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	101%	0 - 3%	101%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	96%	2 - 3%	96%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	99%	4 - 11%	101%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	101%	1 - 4%	104%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	91%	3 - 4%	100%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	112%	7 - 9%	105%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	85%	20 - 22%	96%
(13C7-PFUnA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	95%	6 - 18%	96%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	91%	9 - 22%	81%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	69%	2 - 12%	78%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	59%	1 - 10%	57%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	89%	7 - 15%	91%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	96%	3 - 8%	102%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	108%	18 - 31%	109%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	107%	3 - 19%	109%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	117%	3 - 15%	105%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	104%	9 - 68%	114%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	100%	8 - 13%	126%
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	100%	5 - 19%	87%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	100%	9 - 11%	116%
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	73%	3 - 13%	100%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	79%	2 - 10%	100%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	76%	27 - 41%	95%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB091799	%	-	85%	1 - 20%	95%

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.

SVOC Compounds in Waters by GC-QQQ Method: MA8270

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Acenaphthene	LB091778	µg/L	1	<1	108%
Acenaphthylene	LB091778	µg/L	1	<1	NA
Anthracene	LB091778	µg/L	1	<1	NA
Benzo(a)anthracene	LB091778	µg/L	1	<1	NA
Benzo (a) pyrene	LB091778	µg/L	1	<1	NA
Benzo (b) fluoranthene	LB091778	µg/L	1	<1	NA
Benzo (ghi) perylene	LB091778	µg/L	1	<1	NA
Benzo (k) fluoranthene	LB091778	µg/L	1	<1	NA
Benzo (b+j+k) fluoranthene	LB091778	µg/L	2	<2	NA
Chrysene	LB091778	µg/L	1	<1	NA
Dibenz (ah) anthracene	LB091778	µg/L	1	<1	NA
Fluoranthene	LB091778	µg/L	1	<1	NA
Fluorene	LB091778	µg/L	1	<1	NA
Indeno (1,2,3-cd) pyrene	LB091778	µg/L	1	<1	NA
Naphthalene	LB091778	µg/L	1	<1	NA
Phenanthrene	LB091778	µg/L	1	<1	NA
Pyrene	LB091778	µg/L	1	<1	108%
d14-p-terphenyl (Surrogate)	LB091778	%	0.001	156%	142%
d5-nitrobenzene (Surrogate)	LB091778	%	0.001	109%	97%
d6-phenol (Surrogate)	LB091778	%	0.001	57%	45%
2-fluorobiphenyl (Surrogate)	LB091778	%	0.001	85%	92%
2,4,6-tribromophenol (Surrogate)	LB091778	%	0.001	91%	90%
2-fluorophenol (Surrogate)	LB091778	%	0.001	80%	78%

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH C10-C14	LB091779	mg/L	0.01	<0.01	NA
TRH C15-C28	LB091779	mg/L	0.05	<0.05	NA
TRH C29-C36	LB091779	mg/L	0.05	<0.05	NA
Total TRH C10-C36	LB091779	mg/L	0.05	<0.05	100%
Total TRH C6-C36	LB091779	mg/L	0.05	<0.05	NA
TRH >C10-C40 Total (F)	LB091779	mg/L	0.05	<0.05	NA

TRH F Bands

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH >C10-C16	LB091779	mg/L	0.01	<0.01	NA
TRH >C10-C16 less Naphthalene (F2)	LB091779	mg/L	0.01	<0.01	NA
TRH >C16-C34 (F3)	LB091779	mg/L	0.05	<0.05	NA
TRH >C34-C40 (F4)	LB091779	mg/L	0.05	<0.05	NA
Total TRH C6-C40 (F)	LB091779	mg/L	0.05	<0.05	NA

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.

USEPA 8260B Additional VOCs in water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Acetone*	LB091785	mg/L	0.02	<0.02	NA
Acrylonitrile*	LB091785	mg/L	0.05	<0.05	NA
Carbon disulphide*	LB091785	mg/L	0.005	<0.005	NA
1-Chloro-2-propene*	LB091785	mg/L	0.001	<0.001	NA
cis-1,4-Dichloro-2-butene*	LB091785	mg/L	0.005	<0.005	NA
trans-1,4-Dichloro-2-butene*	LB091785	mg/L	0.005	<0.005	NA
2-Hexanone*	LB091785	mg/L	0.001	<0.001	NA
Iodomethane*	LB091785	mg/L	0.005	<0.005	NA
MEK (2-butanone)	LB091785	mg/L	0.005	<0.005	NA
Methyl Isobutyl Ketone*	LB091785	mg/L	0.005	<0.005	NA
Methyl tert-butyl ether*	LB091785	mg/L	0.001	<0.001	NA
Vinyl Acetate*	LB091785	mg/L	0.01	<0.01	NA

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Benzene	LB091784	mg/L	0.001	<0.001		98%
Bromobenzene	LB091784	mg/L	0.001	<0.001		NA
Bromochloromethane	LB091784	mg/L	0.001	<0.001		NA
Bromodichloromethane	LB091784	mg/L	0.001	<0.001	0%	106%
Bromomethane	LB091784	mg/L	0.001	<0.001		NA
n-Butylbenzene	LB091784	mg/L	0.001	<0.001		NA
s-Butylbenzene	LB091784	mg/L	0.001	<0.001		NA
t-Butylbenzene	LB091784	mg/L	0.001	<0.001		NA
Carbon tetrachloride	LB091784	mg/L	0.001	<0.001	0%	116%
Chlorobenzene	LB091784	mg/L	0.001	<0.001	0%	111%
Chloroethane	LB091784	mg/L	0.001	<0.001		NA
Chloromethane	LB091784	mg/L	0.001	<0.001		NA
2-Chlorotoluene	LB091784	mg/L	0.001	<0.001		NA
4-Chlorotoluene	LB091784	mg/L	0.001	<0.001		NA
Dibromochloromethane	LB091784	mg/L	0.001	<0.001	1%	115%
1,2-Dibromo-3-chloropropane	LB091784	mg/L	0.001	<0.001		NA
1,2-Dibromoethane	LB091784	mg/L	0.001	<0.001		NA
Dibromomethane	LB091784	mg/L	0.001	<0.001		NA
1,2-Dichlorobenzene	LB091784	mg/L	0.001	<0.001	0%	103%
1,3-Dichlorobenzene	LB091784	mg/L	0.001	<0.001	0%	NA
1,4-Dichlorobenzene	LB091784	mg/L	0.001	<0.001	0%	104%
Dichlorodifluoromethane	LB091784	mg/L	0.001	<0.001		NA
1,2-Dichloroethane	LB091784	mg/L	0.001	<0.001	0%	108%
1,1-Dichloroethane	LB091784	mg/L	0.001	<0.001	0%	NA
1,1-Dichloroethene	LB091784	mg/L	0.001	<0.001	0%	93%
cis-1,2-Dichloroethene	LB091784	mg/L	0.001	<0.001	0%	97%
trans-1,2-Dichloroethene	LB091784	mg/L	0.001	<0.001	0%	93%
1,2-Dichloroethene	LB091784	mg/L	0.001	<0.001	0%	NA
Dichloromethane (methylene chloride)	LB091784	mg/L	0.01	<0.01	0%	101%
1,2-Dichloropropane	LB091784	mg/L	0.001	<0.001		100%
1,3-Dichloropropane	LB091784	mg/L	0.001	<0.001		NA
2,2-Dichloropropane	LB091784	mg/L	0.001	<0.001		NA
1,1-Dichloropropene	LB091784	mg/L	0.001	<0.001		NA
cis-1,3-Dichloropropene	LB091784	mg/L	0.001	<0.001		NA
trans-1,3-Dichloropropene	LB091784	mg/L	0.001	<0.001		NA
Ethylbenzene	LB091784	mg/L	0.001	<0.001		103%
Hexachloro-1,3-butadiene	LB091784	mg/L	0.001	<0.001		NA
Isopropylbenzene	LB091784	mg/L	0.001	<0.001		NA
p-Isopropyltoluene	LB091784	mg/L	0.001	<0.001		NA
Naphthalene (VOC)	LB091784	mg/L	0.001	<0.001		NA

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.

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B (continued)

					MB	DUP %RPD	LCS %Recovery
Propylbenzene	LB091784	mg/L	0.001	<0.001			NA
Styrene	LB091784	mg/L	0.001	<0.001			94%
1,1,2,2-Tetrachloroethane	LB091784	mg/L	0.001	<0.001			NA
Tetrachloroethene	LB091784	mg/L	0.001	<0.001	0%		111%
1,1,1,2-Tetrachloroethane	LB091784	mg/L	0.001	<0.001			NA
Toluene	LB091784	mg/L	0.001	<0.001			111%
Tribromomethane	LB091784	mg/L	0.001	<0.001	0%		119%
1,2,3-Trichlorobenzene	LB091784	mg/L	0.001	<0.001	0%		NA
1,2,4-Trichlorobenzene	LB091784	mg/L	0.001	<0.001	0%		90%
1,1,1-Trichloroethane	LB091784	mg/L	0.001	<0.001	0%		113%
1,3,5-Trichlorobenzene	LB091784	mg/L	0.001	<0.001			
1,1,2-Trichloroethane	LB091784	mg/L	0.001	<0.001			107%
Trichloroethene	LB091784	mg/L	0.001	<0.001	0%		98%
Trichlorofluoromethane	LB091784	mg/L	0.001	<0.001			NA
Trichloromethane	LB091784	mg/L	0.001	<0.001	1%		102%
1,2,3-Trichloropropane	LB091784	mg/L	0.001	<0.001			NA
1,2,4-Trimethylbenzene	LB091784	mg/L	0.001	<0.001			NA
1,3,5-Trimethylbenzene	LB091784	mg/L	0.001	<0.001			NA
Vinyl Chloride	LB091784	mg/L	0.001	<0.001			92%
m&p-Xylenes	LB091784	mg/L	0.001	<0.001			108%
o-Xylene	LB091784	mg/L	0.001	<0.001			110%
Xylenes	LB091784	mg/L	0.001	<0.001			NA
Total Trichlorobenzenes	LB091784	mg/L	0.001	<0.001			NA
Total trihalomethanes (THMs)	LB091784	mg/L	0.002	<0.002	0%		NA
Total BTEX	LB091784	mg/L	0.001	<0.001			NA
Toluene-d8 (surrogate)	LB091784	%	-	104%	0%		102%
1,2-Dichloroethane_D4 (Surrogate)	LB091784	%	-	112%	1%		107%
Dibromofluoromethane (Surrogate)	LB091784	%	-	109%	1%		104%
p_Bromofluorobenzene (Surrogate)	LB091784	%	-	94%	0%		108%



QC SUMMARY

ME373477 R0

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.

VPH in Water MA-30 Method: MA30-VPH

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
C6-C9 (P&T)	LB091784	mg/L	0.01	<0.01	77%
C6-C10 (P&T)	LB091784	mg/L	0.01	<0.01	74%
C6-C10 (P&T) less BTEX (F1)	LB091784	mg/L	0.01	<0.01	NA

METHOD

METHODOLOGY SUMMARY

EPA 8260B-01

This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40. The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions". Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS).

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC-QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting.

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

ME373477 R0

CLIENT DETAILS

Contact SGS Environmental Perth
Client SGS I&E EHS PERTH AIRPORT
Address 28 Reid Road
Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
Facsimile +61 (0)8 9373 3556
Email au.environmental.subcon@sgs.com

Project **P25.045**
Order Number **PE184125**
Samples 6

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 **ME373477 R0**
Date Received 09 Jul 2025
Date Reported 11 Jul 2025

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:

Surrogate	SVOC Compounds in Waters by GC-QQQ	1 item
-----------	------------------------------------	--------

SAMPLE SUMMARY

Date documentation received	9/7/2025	Sample counts by matrix	6 Water
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.7°C	Sample container provider	SGS
Turnaround time requested	Two Days	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	2 double bagged Ice
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	3	Type of documentation received	COC



HOLDING TIME SUMMARY

ME373477 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 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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184125.001	ME373477.001	LB091799	04 Jul 2025	09 Jul 2025	01 Aug 2025	10 Jul 2025	07 Aug 2025	11 Jul 2025
PE184125.002	ME373477.002	LB091799	04 Jul 2025	09 Jul 2025	01 Aug 2025	10 Jul 2025	07 Aug 2025	11 Jul 2025
PE184125.003	ME373477.003	LB091799	04 Jul 2025	09 Jul 2025	01 Aug 2025	10 Jul 2025	07 Aug 2025	11 Jul 2025
PE184125.004	ME373477.004	LB091799	04 Jul 2025	09 Jul 2025	01 Aug 2025	10 Jul 2025	07 Aug 2025	11 Jul 2025
PE184125.005	ME373477.005	LB091799	04 Jul 2025	09 Jul 2025	01 Aug 2025	10 Jul 2025	07 Aug 2025	11 Jul 2025
PE184125.006	ME373477.006	LB091799	04 Jul 2025	09 Jul 2025	01 Aug 2025	10 Jul 2025	07 Aug 2025	11 Jul 2025

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184125.001	ME373477.001	LB091778	04 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025	18 Aug 2025	11 Jul 2025
PE184125.002	ME373477.002	LB091778	04 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025	18 Aug 2025	11 Jul 2025
PE184125.003	ME373477.003	LB091778	04 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025	18 Aug 2025	11 Jul 2025
PE184125.004	ME373477.004	LB091778	04 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025	18 Aug 2025	11 Jul 2025

TRH in Water MA-30.VVW.05 Old & New Fractions mg/L

Method: MA30

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184125.001	ME373477.001	LB091779	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.002	ME373477.002	LB091779	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.003	ME373477.003	LB091779	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.004	ME373477.004	LB091779	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.005	ME373477.005	LB091779	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.006	ME373477.006	LB091779	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025

USEPA 8260B Additional VOCs in water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184125.001	ME373477.001	LB091785	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025
PE184125.002	ME373477.002	LB091785	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025
PE184125.003	ME373477.003	LB091785	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025
PE184125.004	ME373477.004	LB091785	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184125.001	ME373477.001	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025
PE184125.002	ME373477.002	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025
PE184125.003	ME373477.003	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025
PE184125.004	ME373477.004	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025
PE184125.005	ME373477.005	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025
PE184125.006	ME373477.006	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	10 Jul 2025

VPH in Water MA-30

Method: MA30-VPH

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184125.001	ME373477.001	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.002	ME373477.002	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.003	ME373477.003	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.004	ME373477.004	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.005	ME373477.005	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025
PE184125.006	ME373477.006	LB091784	04 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025	18 Aug 2025	10 Jul 2025



SURROGATES

ME373477 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	71
	PE184125.002	ME373477.002	%	10 - 150%	86
	PE184125.003	ME373477.003	%	10 - 150%	85
	PE184125.004	ME373477.004	%	10 - 150%	80
	PE184125.005	ME373477.005	%	10 - 150%	78
	PE184125.006	ME373477.006	%	10 - 150%	93
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	72
	PE184125.002	ME373477.002	%	10 - 150%	52
	PE184125.003	ME373477.003	%	10 - 150%	74
	PE184125.004	ME373477.004	%	10 - 150%	82
	PE184125.005	ME373477.005	%	10 - 150%	110
	PE184125.006	ME373477.006	%	10 - 150%	123
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	56
	PE184125.002	ME373477.002	%	10 - 150%	110
	PE184125.003	ME373477.003	%	10 - 150%	63
	PE184125.004	ME373477.004	%	10 - 150%	78
	PE184125.005	ME373477.005	%	10 - 150%	105
	PE184125.006	ME373477.006	%	10 - 150%	117
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	64
	PE184125.002	ME373477.002	%	10 - 150%	106
	PE184125.003	ME373477.003	%	10 - 150%	67
	PE184125.004	ME373477.004	%	10 - 150%	95
	PE184125.005	ME373477.005	%	10 - 150%	122
	PE184125.006	ME373477.006	%	10 - 150%	62
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	89
	PE184125.002	ME373477.002	%	10 - 150%	92
	PE184125.003	ME373477.003	%	10 - 150%	103
	PE184125.004	ME373477.004	%	10 - 150%	92
	PE184125.005	ME373477.005	%	10 - 150%	97
	PE184125.006	ME373477.006	%	10 - 150%	98
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	41
	PE184125.002	ME373477.002	%	10 - 150%	61
	PE184125.003	ME373477.003	%	10 - 150%	69
	PE184125.004	ME373477.004	%	10 - 150%	61
	PE184125.005	ME373477.005	%	10 - 150%	63
	PE184125.006	ME373477.006	%	10 - 150%	71
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	87
	PE184125.002	ME373477.002	%	10 - 150%	87
	PE184125.003	ME373477.003	%	10 - 150%	88
	PE184125.004	ME373477.004	%	10 - 150%	84
	PE184125.005	ME373477.005	%	10 - 150%	89
	PE184125.006	ME373477.006	%	10 - 150%	98
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	100
	PE184125.002	ME373477.002	%	10 - 150%	99
	PE184125.003	ME373477.003	%	10 - 150%	104
	PE184125.004	ME373477.004	%	10 - 150%	101
	PE184125.005	ME373477.005	%	10 - 150%	103
	PE184125.006	ME373477.006	%	10 - 150%	111
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	101
	PE184125.002	ME373477.002	%	10 - 150%	97
	PE184125.003	ME373477.003	%	10 - 150%	89
	PE184125.004	ME373477.004	%	10 - 150%	93
	PE184125.005	ME373477.005	%	10 - 150%	98
	PE184125.006	ME373477.006	%	10 - 150%	95
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	101
	PE184125.002	ME373477.002	%	10 - 150%	100
	PE184125.003	ME373477.003	%	10 - 150%	99
	PE184125.004	ME373477.004	%	10 - 150%	98
	PE184125.005	ME373477.005	%	10 - 150%	101
	PE184125.006	ME373477.006	%	10 - 150%	100
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	105



SURROGATES

ME373477 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	PE184125.002	ME373477.002	%	10 - 150%	109
	PE184125.003	ME373477.003	%	10 - 150%	89
	PE184125.004	ME373477.004	%	10 - 150%	94
	PE184125.005	ME373477.005	%	10 - 150%	100
	PE184125.006	ME373477.006	%	10 - 150%	102
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	100
	PE184125.002	ME373477.002	%	10 - 150%	100
	PE184125.003	ME373477.003	%	10 - 150%	88
	PE184125.004	ME373477.004	%	10 - 150%	96
	PE184125.005	ME373477.005	%	10 - 150%	101
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	PE184125.006	ME373477.006	%	10 - 150%	99
	PE184125.001	ME373477.001	%	10 - 150%	98
	PE184125.002	ME373477.002	%	10 - 150%	102
	PE184125.003	ME373477.003	%	10 - 150%	104
	PE184125.004	ME373477.004	%	10 - 150%	93
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	PE184125.005	ME373477.005	%	10 - 150%	95
	PE184125.006	ME373477.006	%	10 - 150%	92
	PE184125.001	ME373477.001	%	10 - 150%	96
	PE184125.002	ME373477.002	%	10 - 150%	108
	PE184125.003	ME373477.003	%	10 - 150%	113
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	PE184125.004	ME373477.004	%	10 - 150%	110
	PE184125.005	ME373477.005	%	10 - 150%	84
	PE184125.006	ME373477.006	%	10 - 150%	80
	PE184125.001	ME373477.001	%	10 - 150%	93
	PE184125.002	ME373477.002	%	10 - 150%	105
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	PE184125.003	ME373477.003	%	10 - 150%	99
	PE184125.004	ME373477.004	%	10 - 150%	101
	PE184125.005	ME373477.005	%	10 - 150%	99
	PE184125.006	ME373477.006	%	10 - 150%	99
	PE184125.001	ME373477.001	%	10 - 150%	95
(13C8-PFOsA) Isotopically Labelled Internal Recovery Standard	PE184125.002	ME373477.002	%	10 - 150%	99
	PE184125.003	ME373477.003	%	10 - 150%	94
	PE184125.004	ME373477.004	%	10 - 150%	106
	PE184125.005	ME373477.005	%	10 - 150%	122
	PE184125.006	ME373477.006	%	10 - 150%	101
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	107
	PE184125.002	ME373477.002	%	10 - 150%	89
	PE184125.003	ME373477.003	%	10 - 150%	99
	PE184125.004	ME373477.004	%	10 - 150%	93
	PE184125.005	ME373477.005	%	10 - 150%	121
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	PE184125.006	ME373477.006	%	10 - 150%	111
	PE184125.001	ME373477.001	%	10 - 150%	103
	PE184125.002	ME373477.002	%	10 - 150%	92
	PE184125.003	ME373477.003	%	10 - 150%	97
	PE184125.004	ME373477.004	%	10 - 150%	96
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	PE184125.005	ME373477.005	%	10 - 150%	99
	PE184125.006	ME373477.006	%	10 - 150%	98
	PE184125.001	ME373477.001	%	10 - 150%	87
	PE184125.002	ME373477.002	%	10 - 150%	124
	PE184125.003	ME373477.003	%	10 - 150%	76
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	PE184125.004	ME373477.004	%	10 - 150%	96
	PE184125.005	ME373477.005	%	10 - 150%	139
	PE184125.006	ME373477.006	%	10 - 150%	107
	PE184125.001	ME373477.001	%	10 - 150%	76
	PE184125.002	ME373477.002	%	10 - 150%	56
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	PE184125.003	ME373477.003	%	10 - 150%	76
	PE184125.004	ME373477.004	%	10 - 150%	74
	PE184125.005	ME373477.005	%	10 - 150%	101
	PE184125.006	ME373477.006	%	10 - 150%	96
	PE184125.001	ME373477.001	%	10 - 150%	97
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	PE184125.002	ME373477.002	%	10 - 150%	116



SURROGATES

ME373477 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	PE184125.003	ME373477.003	%	10 - 150%	104
	PE184125.004	ME373477.004	%	10 - 150%	126
	PE184125.005	ME373477.005	%	10 - 150%	146
	PE184125.006	ME373477.006	%	10 - 150%	125
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	77
	PE184125.002	ME373477.002	%	10 - 150%	54
	PE184125.003	ME373477.003	%	10 - 150%	69
	PE184125.004	ME373477.004	%	10 - 150%	76
	PE184125.005	ME373477.005	%	10 - 150%	100
	PE184125.006	ME373477.006	%	10 - 150%	105
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	95
	PE184125.002	ME373477.002	%	10 - 150%	78
	PE184125.003	ME373477.003	%	10 - 150%	79
	PE184125.004	ME373477.004	%	10 - 150%	91
	PE184125.005	ME373477.005	%	10 - 150%	100
	PE184125.006	ME373477.006	%	10 - 150%	98
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	PE184125.001	ME373477.001	%	10 - 150%	89
	PE184125.002	ME373477.002	%	10 - 150%	86
	PE184125.003	ME373477.003	%	10 - 150%	85
	PE184125.004	ME373477.004	%	10 - 150%	93
	PE184125.005	ME373477.005	%	10 - 150%	114
	PE184125.006	ME373477.006	%	10 - 150%	96

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	PE184125.001	ME373477.001	%	40 - 130%	109
	PE184125.002	ME373477.002	%	40 - 130%	104
	PE184125.003	ME373477.003	%	40 - 130%	113
	PE184125.004	ME373477.004	%	40 - 130%	104
2-fluorobiphenyl (Surrogate)	PE184125.001	ME373477.001	%	40 - 130%	64
	PE184125.002	ME373477.002	%	40 - 130%	58
	PE184125.003	ME373477.003	%	40 - 130%	53
	PE184125.004	ME373477.004	%	40 - 130%	57
2-fluorophenol (Surrogate)	PE184125.001	ME373477.001	%	40 - 130%	116
	PE184125.002	ME373477.002	%	40 - 130%	106
	PE184125.003	ME373477.003	%	40 - 130%	113
	PE184125.004	ME373477.004	%	40 - 130%	92
d14-p-terphenyl (Surrogate)	PE184125.001	ME373477.001	%	40 - 130%	131 ①
	PE184125.002	ME373477.002	%	40 - 130%	125
	PE184125.003	ME373477.003	%	40 - 130%	121
	PE184125.004	ME373477.004	%	40 - 130%	120
d5-nitrobenzene (Surrogate)	PE184125.001	ME373477.001	%	40 - 130%	92
	PE184125.002	ME373477.002	%	40 - 130%	98
	PE184125.003	ME373477.003	%	40 - 130%	87
	PE184125.004	ME373477.004	%	40 - 130%	86
d6-phenol (Surrogate)	PE184125.001	ME373477.001	%	40 - 130%	43
	PE184125.002	ME373477.002	%	40 - 130%	54
	PE184125.003	ME373477.003	%	40 - 130%	50
	PE184125.004	ME373477.004	%	40 - 130%	40

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	PE184125.001	ME373477.001	%	60 - 130%	112
	PE184125.002	ME373477.002	%	60 - 130%	112
	PE184125.003	ME373477.003	%	60 - 130%	113
	PE184125.004	ME373477.004	%	60 - 130%	113
	PE184125.005	ME373477.005	%	60 - 130%	112
	PE184125.006	ME373477.006	%	60 - 130%	109
Dibromofluoromethane (Surrogate)	PE184125.001	ME373477.001	%	60 - 130%	107
	PE184125.002	ME373477.002	%	60 - 130%	108
	PE184125.003	ME373477.003	%	60 - 130%	109
	PE184125.004	ME373477.004	%	60 - 130%	111



SURROGATES

ME373477 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Dibromofluoromethane (Surrogate)	PE184125.005	ME373477.005	%	60 - 130%	109
	PE184125.006	ME373477.006	%	60 - 130%	104
p_Bromofluorobenzene (Surrogate)	PE184125.001	ME373477.001	%	60 - 130%	92
	PE184125.002	ME373477.002	%	60 - 130%	93
	PE184125.003	ME373477.003	%	60 - 130%	94
	PE184125.004	ME373477.004	%	60 - 130%	93
	PE184125.005	ME373477.005	%	60 - 130%	93
	PE184125.006	ME373477.006	%	60 - 130%	91
Toluene-d8 (surrogate)	PE184125.001	ME373477.001	%	60 - 130%	104
	PE184125.002	ME373477.002	%	60 - 130%	104
	PE184125.003	ME373477.003	%	60 - 130%	104
	PE184125.004	ME373477.004	%	60 - 130%	103
	PE184125.005	ME373477.005	%	60 - 130%	103
	PE184125.006	ME373477.006	%	60 - 130%	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 Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result
LB091799.001	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	<0.0005
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002
	Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001
	Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001
	Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002
	Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001
	Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001
	Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002
	Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002
	Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002
	Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005
	Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005
	Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002
	N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025
	2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	µg/L	0.0025	<0.0025
	2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	µg/L	0.0025	<0.0025
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	µg/L	0.0025	<0.0025
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	%	-	96
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	%	-	99
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	%	-	91
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	%	-	112
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	%	-	85
	(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	%	-	95
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	%	-	91
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	%	-	69
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	%	-	59
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	%	-	89
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	%	-	96
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	%	-	108
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	107
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	117
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	104
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	%	-	73
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	%	-	79
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	76
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	85

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091778.001	Acenaphthene	µg/L	1	<1
	Acenaphthylene	µg/L	1	<1
	Anthracene	µg/L	1	<1



METHOD BLANKS

ME373477 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091778.001	Benzo(a)anthracene	µg/L	1	<1
	Benzo (a) pyrene	µg/L	1	<1
	Benzo (b) fluoranthene	µg/L	1	<1
	Benzo (ghi) perylene	µg/L	1	<1
	Benzo (k) fluoranthene	µg/L	1	<1
	Benzo (b+j+k) fluoranthene	µg/L	2	<2
	Chrysene	µg/L	1	<1
	Dibenz (ah) anthracene	µg/L	1	<1
	Fluoranthene	µg/L	1	<1
	Fluorene	µg/L	1	<1
	Indeno (1,2,3-cd) pyrene	µg/L	1	<1
	Naphthalene	µg/L	1	<1
	Phenanthrene	µg/L	1	<1
	Pyrene	µg/L	1	<1

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result
LB091779.001	TRH C10-C14	mg/L	0.01	<0.01
	TRH C15-C28	mg/L	0.05	<0.05
	TRH C29-C36	mg/L	0.05	<0.05
	Total TRH C10-C36	mg/L	0.05	<0.05
	Total TRH C6-C36	mg/L	0.05	<0.05
	TRH >C10-C40 Total (F)	mg/L	0.05	<0.05
	TRH F Bands	mg/L	0.01	<0.01
	TRH >C10-C16	mg/L	0.01	<0.01
	TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01
	TRH >C16-C34 (F3)	mg/L	0.05	<0.05
	TRH >C34-C40 (F4)	mg/L	0.05	<0.05
	Total TRH C6-C40 (F)	mg/L	0.05	<0.05

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091784.001	Benzene	mg/L	0.001	<0.001
	Bromobenzene	mg/L	0.001	<0.001
	Bromochloromethane	mg/L	0.001	<0.001
	Bromodichloromethane	mg/L	0.001	<0.001
	Bromomethane	mg/L	0.001	<0.001
	n-Butylbenzene	mg/L	0.001	<0.001
	s-Butylbenzene	mg/L	0.001	<0.001
	t-Butylbenzene	mg/L	0.001	<0.001
	Carbon tetrachloride	mg/L	0.001	<0.001
	Chlorobenzene	mg/L	0.001	<0.001
	Chloroethane	mg/L	0.001	<0.001
	Chloromethane	mg/L	0.001	<0.001
	2-Chlorotoluene	mg/L	0.001	<0.001
	4-Chlorotoluene	mg/L	0.001	<0.001
	Dibromochloromethane	mg/L	0.001	<0.001
	1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001
	1,2-Dibromoethane	mg/L	0.001	<0.001
	Dibromomethane	mg/L	0.001	<0.001
	1,2-Dichlorobenzene	mg/L	0.001	<0.001
	1,3-Dichlorobenzene	mg/L	0.001	<0.001
	1,4-Dichlorobenzene	mg/L	0.001	<0.001
	Dichlorodifluoromethane	mg/L	0.001	<0.001
	1,2-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethene	mg/L	0.001	<0.001
	cis-1,2-Dichloroethene	mg/L	0.001	<0.001
	trans-1,2-Dichloroethene	mg/L	0.001	<0.001
	Dichloromethane (methylene chloride)	mg/L	0.01	<0.01
	1,2-Dichloropropane	mg/L	0.001	<0.001
	1,3-Dichloropropane	mg/L	0.001	<0.001
	2,2-Dichloropropane	mg/L	0.001	<0.001



METHOD BLANKS

ME373477 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091784.001	1,1-Dichloropropene	mg/L	0.001	<0.001
	cis-1,3-Dichloropropene	mg/L	0.001	<0.001
	trans-1,3-Dichloropropene	mg/L	0.001	<0.001
	Ethylbenzene	mg/L	0.001	<0.001
	Hexachloro-1,3-butadiene	mg/L	0.001	<0.001
	Isopropylbenzene	mg/L	0.001	<0.001
	p-Isopropyltoluene	mg/L	0.001	<0.001
	Naphthalene (VOC)	mg/L	0.001	<0.001
	Propylbenzene	mg/L	0.001	<0.001
	Styrene	mg/L	0.001	<0.001
	1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001
	Tetrachloroethene	mg/L	0.001	<0.001
	1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001
	Toluene	mg/L	0.001	<0.001
	Tribromomethane	mg/L	0.001	<0.001
	1,2,3-Trichlorobenzene	mg/L	0.001	<0.001
	1,2,4-Trichlorobenzene	mg/L	0.001	<0.001
	1,1,1-Trichloroethane	mg/L	0.001	<0.001
	1,1,2-Trichloroethane	mg/L	0.001	<0.001
	Trichloroethene	mg/L	0.001	<0.001
	Trichlorofluoromethane	mg/L	0.001	<0.001
	Trichloromethane	mg/L	0.001	<0.001
	1,2,3-Trichloropropane	mg/L	0.001	<0.001
	1,2,4-Trimethylbenzene	mg/L	0.001	<0.001
	1,3,5-Trimethylbenzene	mg/L	0.001	<0.001
	Vinyl Chloride	mg/L	0.001	<0.001
	m&p-Xylenes	mg/L	0.001	<0.001
	o-Xylene	mg/L	0.001	<0.001
	Xylenes	mg/L	0.001	<0.001
	Toluene-d8 (surrogate)	%	-	104
	1,2-Dichloroethane_D4 (Surrogate)	%	-	112
	Dibromofluoromethane (Surrogate)	%	-	109
	p_Bromofluorobenzene (Surrogate)	%	-	94

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result
LB091784.001	C6-C9 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01

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

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: $MAD = 100 \times \frac{SDL}{Mean} + LR$

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.

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373478.001	LB091799.015	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	<0.005	0.0057	200	12
		Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.005	<0.005	200	0
		Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0079	0.0093	200	17
		Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0009	0.0007	200	24
		Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	200	0
		Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	0.025	0.022	200	14
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	µg/L	-	10.2	9.91	200	3
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	µg/L	-	9.98	10.3	200	3
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	µg/L	-	9.32	8.32	200	11
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	µg/L	-	9.81	9.46	200	4
		(13C4_PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.76	10.2	200	4
		(13C9-PFNA) Isotopically Labelled Internal Recovery	µg/L	-	9.72	10.7	200	9
		(13C6-PFDA) Isotopically Labelled Internal Recovery	µg/L	-	9.30	11.3	200	20
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	µg/L	-	8.87	9.42	200	6
		(13C2-PFDoA) Isotopically Labelled Internal Recovery	µg/L	-	8.31	9.09	200	9
		(13C2_PFTeDA) Isotopically Labelled Internal Recovery	µg/L	-	7.87	8.00	200	2
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	µg/L	-	6.88	6.82	200	1
		(13C3-PFBS) Isotopically Labelled Internal Recovery	µg/L	-	9.05	8.42	200	7
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	µg/L	-	9.90	9.61	200	3
		(13C8-PFOS) Isotopically Labelled Internal Recovery	µg/L	-	7.64	10.4	200	31
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	9.67	9.35	200	3
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	14.3	14.7	200	3
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	9.76	10.7	200	9
		(13C8-PFOSA) Isotopically Labelled Internal Recovery	µg/L	-	10.0	11.4	200	13
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	µg/L	-	9.72	9.26	200	5
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	µg/L	-	10.3	11.4	200	11
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	µg/L	-	12.9	14.7	200	13
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	µg/L	-	13.1	14.5	200	10
		(D3-N-MeFOSAA) Isotopically Labelled Internal	µg/L	-	9.77	14.9	200	41
		(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	µg/L	-	11.7	14.3	200	20
ME373479.001	LB091799.004	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	200	0

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

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: $MAD = 100 \times \frac{SDL}{Mean} + LR$

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.

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level (continued)

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373479.001	LB091799.004	Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	200	0
		Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	µg/L	-	10.1	10.1	200	0
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	µg/L	-	9.68	9.48	200	2
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	µg/L	-	9.79	10.2	200	4
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	µg/L	-	10.4	10.3	200	1
		(13C4_PFOA) Isotopically Labelled Internal Recovery	µg/L	-	10.3	9.99	200	3
		(13C9-PFNA) Isotopically Labelled Internal Recovery	µg/L	-	10.3	9.52	200	7
		(13C6-PFDA) Isotopically Labelled Internal Recovery	µg/L	-	8.95	11.1	200	22
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	µg/L	-	8.94	10.7	200	18
		(13C2-PFDa) Isotopically Labelled Internal Recovery	µg/L	-	8.58	10.7	200	22
		(13C2_PFTeDA) Isotopically Labelled Internal Recovery	µg/L	-	7.49	8.46	200	12
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	µg/L	-	6.47	7.17	200	10
		(13C3-PFBS) Isotopically Labelled Internal Recovery	µg/L	-	9.02	10.5	200	15
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	µg/L	-	9.95	10.7	200	8
		(13C8-PFOS) Isotopically Labelled Internal Recovery	µg/L	-	8.88	10.6	200	18
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	10.3	12.5	200	19
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	12.2	14.2	200	15
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	14.4	7.10	200	68
		(13C8-PFOA) Isotopically Labelled Internal Recovery	µg/L	-	10.4	9.63	200	8
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	µg/L	-	11.7	9.63	200	19
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	µg/L	-	12.2	11.2	200	9
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	µg/L	-	9.17	9.46	200	3
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	µg/L	-	9.44	9.59	200	2
		(D3-N-MeFOSAA) Isotopically Labelled Internal	µg/L	-	10.6	8.11	200	27
		(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	µg/L	-	9.81	9.75	200	1

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373470.001	LB091784.004	Bromodichloromethane	mg/L	0.001	0.01281931730	0.0128559402	38	0
		Carbon tetrachloride	mg/L	0.001	0	0	200	0
		Dibromochloromethane	mg/L	0.001	0.005257329	0.005322403	49	1
		Tribromomethane	mg/L	0.001	0	0	200	0
		Trichloromethane	mg/L	0.001	0.01903451380	0.0189288691	35	1
		Total trihalomethanes (THMs)	mg/L	0.002	0.0371111601	0.0371072124	35	0
ME373595.003	LB091784.015	Chlorobenzene	mg/L	0.001	0	0	200	0
		1,2-Dichlorobenzene	mg/L	0.001	0	0	200	0
		1,3-Dichlorobenzene	mg/L	0.001	0	0	200	0



DUPLICATES

ME373477 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373595.003	LB091784.015	1,4-Dichlorobenzene	mg/L	0.001	0	0	200	0
		1,2-Dichloroethane	mg/L	0.001	0	0	200	0
		1,1-Dichloroethane	mg/L	0.001	0	0	200	0
		1,1-Dichloroethene	mg/L	0.001	0	0	200	0
		cis-1,2-Dichloroethene	mg/L	0.001	0	0	200	0
		trans-1,2-Dichloroethene	mg/L	0.001	0	0	200	0
		1,2-Dichloroethene	mg/L	0.001	0	0	200	0
		Dichloromethane (methylene chloride)	mg/L	0.01	0	0	200	0
		Tetrachloroethene	mg/L	0.001	0	0	200	0
		1,2,3-Trichlorobenzene	mg/L	0.001	0	0	200	0
		1,2,4-Trichlorobenzene	mg/L	0.001	0	0	200	0
		1,1,1-Trichloroethane	mg/L	0.001	0	0	200	0
		Trichloroethene	mg/L	0.001	0	0	200	0
		Toluene-d8 (surrogate)	µg/L	-	51.2	51.3	30	0
		1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	55.32356785056	56.0782212876	30	1
		Dibromofluoromethane (Surrogate)	µg/L	-	53.861994801	54.4811294366	30	1
		p_Bromofluorobenzene (Surrogate)	µg/L	-	16.16189158506	16.0396442786	30	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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091799.002	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.013	0.02	40 - 150	64
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.016	0.02	40 - 150	81
	Perfluorononanoic acid (PFNA)	µg/L	0.001	0.014	0.02	40 - 150	71
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	0.016	0.02	40 - 150	82
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	0.014	0.02	40 - 150	72
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	0.016	0.02	40 - 150	78
	Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	0.016	0.02	40 - 150	80
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	0.015	0.02	40 - 150	75
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.014	0.02	40 - 150	72
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	0.010	0.02	40 - 150	49
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	10	10 - 150	101
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.65	10	10 - 150	96
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	10	10 - 150	101
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.4	10	10 - 150	104
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.99	10	10 - 150	100
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.5	10	10 - 150	105
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.63	10	10 - 150	96
	(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.57	10	10 - 150	96
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.10	10	10 - 150	81
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.77	10	10 - 150	78
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	5.65	10	10 - 150	57
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.46	9.3	10 - 150	91
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.66	9.46	9 - 150	102
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	9.28	10 - 150	109
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	9.34	10 - 150	109
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.0	9.5	10 - 150	105
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.9	9.58	10 - 150	114
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	12.6	10	10 - 150	126
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.67	10	10 - 150	87
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	11.6	10	10 - 150	116
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.0	10	10 - 150	100
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.0	10	10 - 150	100
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.49	10	10 - 150	95
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.52	10	10 - 150	95

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091779.002	Total TRH C10-C36	mg/L	0.05	25	25	80 - 120	100

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091784.002	Benzene	mg/L	0.001	0.024	0.025	60 - 140	98
	Bromodichloromethane	mg/L	0.001	0.026	0.025	60 - 140	106
	Carbon tetrachloride	mg/L	0.001	0.029	0.025	60 - 140	116
	Chlorobenzene	mg/L	0.001	0.028	0.025	60 - 140	111
	Dibromochloromethane	mg/L	0.001	0.029	0.025	60 - 140	115
	1,2-Dichlorobenzene	mg/L	0.001	0.026	0.025	60 - 140	103
	1,4-Dichlorobenzene	mg/L	0.001	0.026	0.025	60 - 140	104
	1,2-Dichloroethane	mg/L	0.001	0.027	0.025	60 - 140	108
	1,1-Dichloroethene	mg/L	0.001	0.023	0.025	60 - 140	93
	cis-1,2-Dichloroethene	mg/L	0.001	0.024	0.025	60 - 140	97
	trans-1,2-Dichloroethene	mg/L	0.001	0.023	0.025	60 - 140	93
	Dichloromethane (methylene chloride)	mg/L	0.01	0.03	0.025	60 - 140	101
	1,2-Dichloropropane	mg/L	0.001	0.025	0.025	60 - 140	100
	Ethylbenzene	mg/L	0.001	0.026	0.025	60 - 140	103
	Styrene	mg/L	0.001	0.024	0.025	60 - 140	94
	Tetrachloroethene	mg/L	0.001	0.028	0.025	60 - 140	111
	Toluene	mg/L	0.001	0.028	0.025	60 - 140	111
	Tribromomethane	mg/L	0.001	0.030	0.025	60 - 140	119
	1,2,4-Trichlorobenzene	mg/L	0.001	0.022	0.025	60 - 140	90



LABORATORY CONTROL SAMPLES

ME373477 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091784.002	1,1,1-Trichloroethane	mg/L	0.001	0.028	0.025	60 - 140	113
	1,1,2-Trichloroethane	mg/L	0.001	0.027	0.025	60 - 140	107
	Trichloroethene	mg/L	0.001	0.024	0.025	60 - 140	98
	Trichloromethane	mg/L	0.001	0.025	0.025	60 - 140	102
	Vinyl Chloride	mg/L	0.001	0.023	0.025	60 - 140	92
	m&p-Xylenes	mg/L	0.001	0.054	0.05	60 - 140	108
	o-Xylene	mg/L	0.001	0.028	0.025	60 - 140	110
	Toluene-d8 (surrogate)	µg/L	-	50.9	50	70 - 130	102
	1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	53.5	50	70 - 130	107
	Dibromofluoromethane (Surrogate)	µg/L	-	52.0	50	70 - 130	104
	p_Bromofluorobenzene (Surrogate)	µg/L	-	53.9	50	70 - 130	108

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091784.002	C6-C9 (P&T)	mg/L	0.01	0.35	0.45	60 - 130	77
	C6-C10 (P&T)	mg/L	0.01	0.37	0.5	60 - 130	74



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

ME373477 R0

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 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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.



SAMPLE RECEIPT ADVICE

PE184125

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 6

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

Samples Received Fri 4/7/2025
Report Due Mon 14/7/2025
SGS Reference **PE184125**

SUBMISSION DETAILS

This is to confirm that 6 samples were received on Friday 4/7/2025. Results are expected to be ready by COB Monday 14/7/2025. Please quote SGS reference PE184125 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Date documentation received	04/07/2025	Sample counts by matrix	6 Water
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	19.2°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
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

Organics and PFAS to be subcontracted to SGS Notting Hill
FRP and REDOX received on last day of holding time.

NOx received on second last day of holding time.
Sample's ID confirmed by client.

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

PE184125

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in	SVOC Compounds in Waters by GC-QQQ	Trace Metals (Dissolved) in Water by ICPMS TQe	TRH in Water MA-30.WW.05 Old & New	USEPA 8260B Additional VOCs in water	USEPA8260B Volatile Organic Compounds in	VPH in Water MA-30
001	T25-MW12	56	24	16	11	12	69	3
002	T25-MW25	56	24	16	11	12	69	3
003	A20-GW04	56	24	16	11	12	69	3
004	DUP02	56	24	16	11	12	69	3
005	RINS02	56	-	7	11	-	12	3
006	FB/TB01	56	-	7	11	-	12	3

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

PE184125

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Acidity and Free CO ₂	Alkalinity	Chloride by Discrete Analyser in Water	Conductivity and TDS by Calculation - Water	Mercury (dissolved) in Water	Nitrate Nitrogen and Nitrite Nitrogen (NO _x) by FIA	pH in water	Sulfate in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Dissolved Solids (TDS) in water
001	T25-MW12	1	3	1	1	1	2	1	1	1	1
002	T25-MW25	1	3	1	1	1	2	1	1	1	1
003	A20-GW04	1	3	1	1	1	2	1	1	1	1
004	DUP02	1	3	1	1	1	2	1	1	1	1
005	RINS02	-	-	-	-	1	-	-	-	-	-
006	FB/TB01	-	-	-	-	1	-	-	-	-	-

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

PE184125

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by FIA	Calculated Nitrogen Forms - TN, organic N, inorganic	Dissolved Oxygen by Membrane Electrode	Filterable Reactive Phosphorus (FRP)	Redox Potential (Eh) in water	Total Phosphorus by Kjeldahl Digestion DA in	Trace Metals (Total) in Water by ICPMS TQe
001	T25-MW12	1	1	3	1	2	1	2
002	T25-MW25	1	1	3	1	2	1	2
003	A20-GW04	1	1	3	1	2	1	2
004	DUP02	1	1	3	1	2	1	2

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 .

CLIENT DETAILS

Contact **Matt Trenorden**
 Client **WESTERN ENVIRONMENTAL**
 Address **PO BOX 437
 LEEDERVILLE WA 6903**

Telephone **61 8 61628980**
 Facsimile **(Not specified)**
 Email **matt.t@westenv.com.au**

Project **P25.045**
 Order Number **P25.045**
 Samples **9**

LABORATORY DETAILS

Manager **Merene Hwang**
 Laboratory **SGS Perth Environmental**
 Address **28 Reid Rd
 Perth Airport WA 6105**

Telephone **(08) 9373 3500**
 Facsimile **(08) 9373 3556**
 Email **au.environmental.perth@sgs.com**

SGS Reference **PE184202 R0**
 Date Received **08 Jul 2025**
 Date Reported **17 Jul 2025**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(898).

Metals: The over range results on ICPMS Method AN318 were reported using ICPOES method AN320.

8270: Majority of surrogate recoveries are within acceptance criteria.

Organics & PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number 2562 (14420), Report No: ME373705.

TDS in Water: Failed TDS percentage acceptance criteria for sample 5,7; sample results were confirmed by repeated EC and TDS analysis.

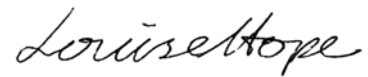
SIGNATORIES



Chiara CAPORALE
Team Leader



Hue Thanh LY
Metals Team Leader



Louise HOPE
Laboratory Technician



Mary Ann OLA-A
Inorganics Team Leader



Merene HWANG
Lab Manager



Murray O'NEILL
Lab Technician-Nutrients Signatory



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.001	PE184202.002	PE184202.003	PE184202.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	T25-MW01	T25-MW18	T25-MW03	T25-MW30

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 15/7/2025

Benzene	mg/L	0.001	<0.001	-	-	-
Bromobenzene	mg/L	0.001	<0.001	-	-	-
Bromochloromethane	mg/L	0.001	<0.001	-	-	-
Bromodichloromethane	mg/L	0.001	<0.001	-	-	-
Bromomethane	mg/L	0.001	<0.001	-	-	-
n-Butylbenzene	mg/L	0.001	<0.001	-	-	-
s-Butylbenzene	mg/L	0.001	<0.001	-	-	-
t-Butylbenzene	mg/L	0.001	<0.001	-	-	-
Carbon tetrachloride	mg/L	0.001	<0.001	-	-	-
Chlorobenzene	mg/L	0.001	<0.001	-	-	-
Chloroethane	mg/L	0.001	<0.001	-	-	-
Chloromethane	mg/L	0.001	<0.001	-	-	-
2-Chlorotoluene	mg/L	0.001	<0.001	-	-	-
4-Chlorotoluene	mg/L	0.001	<0.001	-	-	-
Dibromochloromethane	mg/L	0.001	<0.001	-	-	-
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	-	-	-
1,2-Dibromoethane	mg/L	0.001	<0.001	-	-	-
Dibromomethane	mg/L	0.001	<0.001	-	-	-
1,2-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,3-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,4-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
Dichlorodifluoromethane	mg/L	0.001	<0.001	-	-	-
1,2-Dichloroethane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloroethane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloroethene	mg/L	0.001	<0.001	-	-	-
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	-	-	-
1,2-Dichloropropane	mg/L	0.001	<0.001	-	-	-
1,3-Dichloropropane	mg/L	0.001	<0.001	-	-	-
2,2-Dichloropropane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloropropene	mg/L	0.001	<0.001	-	-	-
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	-	-	-
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	-	-	-
Ethylbenzene	mg/L	0.001	<0.001	-	-	-
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	-	-	-
Isopropylbenzene	mg/L	0.001	<0.001	-	-	-
p-Isopropyltoluene	mg/L	0.001	<0.001	-	-	-
Naphthalene (VOC)	mg/L	0.001	<0.001	-	-	-
Propylbenzene	mg/L	0.001	<0.001	-	-	-
Styrene	mg/L	0.001	<0.001	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	-	-	-
Tetrachloroethene	mg/L	0.001	<0.001	-	-	-
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	-	-	-
Toluene	mg/L	0.001	<0.001	-	-	-
Tribromomethane	mg/L	0.001	<0.001	-	-	-
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,1,1-Trichloroethane	mg/L	0.001	<0.001	-	-	-
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,1,2-Trichloroethane	mg/L	0.001	<0.001	-	-	-
Trichloroethene	mg/L	0.001	<0.001	-	-	-
Trichlorofluoromethane	mg/L	0.001	<0.001	-	-	-
Trichloromethane	mg/L	0.001	<0.001	-	-	-
1,2,3-Trichloropropane	mg/L	0.001	<0.001	-	-	-
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	-	-	-
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	-	-	-
Vinyl Chloride	mg/L	0.001	<0.001	-	-	-



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.001	PE184202.002	PE184202.003	PE184202.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	T25-MW01	T25-MW18	T25-MW03	T25-MW30

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 15/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	-	-	-
o-Xylene	mg/L	0.001	<0.001	-	-	-
Xylenes	mg/L	0.001	<0.001	-	-	-
Total Trichlorobenzenes	mg/L	0.001	<0.001	-	-	-
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	-	-	-
Total BTEX	mg/L	0.001	<0.001	-	-	-
Toluene-d8 (surrogate)	%	-	105	-	-	-
1,2-Dichloroethane_D4 (Surrogate)	%	-	94	-	-	-
Dibromofluoromethane (Surrogate)	%	-	98	-	-	-
p_Bromofluorobenzene (Surrogate)	%	-	100	-	-	-

VPH in Water MA-30 Method: MA30-VPH Tested: 15/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 15/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.001	PE184202.002	PE184202.003	PE184202.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	T25-MW01	T25-MW18	T25-MW03	T25-MW30

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 15/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0018	<0.0005	0.0075	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0011	<0.0005	0.0008	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorooctanoic acid (PFOA)	µg/L	0.0002	0.0032	<0.0002	0.0079	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	-
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	0.005	<0.001	0.002	-
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	0.001	<0.001	<0.001	-
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.012	<0.0002	0.0024	-
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	-
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.0023	<0.0002	0.0029	-
Sum of PFHxS and PFOS	µg/L	0.0002	0.014	<0.0002	0.0053	-
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	0.0073	0.0016	0.0031	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
Total PFAS (n=30)	µg/L	0.006	0.034	<0.0060	0.026	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	101	101	98	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	106	104	104	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	90	89	92	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	95	94	99	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	97	98	102	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	92	97	93	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	108	96	96	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	97	91	89	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	99	112	108	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	29	53	37	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	50	67	57	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	78	85	83	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	100	98	104	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	107	98	116	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	65	59	77	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	87	54	106	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	76	49	109	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	101	115	123	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	83	72	55	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	12	67	20	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	63	107	98	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	56	95	86	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	62	69	83	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	74	65	88	-

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 15/7/2025



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.001	PE184202.002	PE184202.003	PE184202.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	T25-MW01	T25-MW18	T25-MW03	T25-MW30

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 15/7/2025 (continued)

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
Total PAHs	µg/L	8	<8	<8	<8	<8
d14-p-terphenyl (Surrogate)	%	0.001	109	104	113	111
d5-nitrobenzene (Surrogate)	%	0.001	115	118	118	115
d6-phenol (Surrogate)	%	0.001	42	37	32	48
2-fluorobiphenyl (Surrogate)	%	0.001	88	69	78	65
2,4,6-tribromophenol (Surrogate)	%	0.001	129	123	117	153
2-fluorophenol (Surrogate)	%	0.001	59	56	46	66

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 15/7/2025

Acetone*	mg/L	0.02	<0.02	-	-	-
Acrylonitrile*	mg/L	0.05	<0.05	-	-	-
Carbon disulphide*	mg/L	0.005	<0.005	-	-	-
1-Chloro-2-propene*	mg/L	0.001	<0.001	-	-	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	-	-	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	-	-	-
2-Hexanone*	mg/L	0.001	<0.001	-	-	-
Iodomethane*	mg/L	0.005	<0.005	-	-	-
MEK (2-butanone)	mg/L	0.005	<0.005	-	-	-
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	-	-	-
Methyl tert-butyl ether*	mg/L	0.001	<0.001	-	-	-
Vinyl Acetate*	mg/L	0.01	<0.01	-	-	-

pH in water Method: AN101 Tested: 8/7/2025

pH**	pH Units	-	8.0	6.4	8.2	-
------	----------	---	-----	-----	-----	---

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 8/7/2025

Conductivity @ 25 C	µS/cm	2	6200	730	900	-
---------------------	-------	---	------	-----	-----	---

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 10/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	3500	400	580	-
---	------	----	------	-----	-----	---



ANALYTICAL REPORT

PE184202 R0

		Sample Number	PE184202.001	PE184202.002	PE184202.003	PE184202.004
		Sample Matrix	Water	Water	Water	Water
		Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
		Sample Name	T25-MW01	T25-MW18	T25-MW03	T25-MW30
Parameter	Units	LOR				

Acidity and Free CO2 Method: AN140 Tested: 8/7/2025

Acidity to pH 8.3	mg CaCO3/L	5	11	14	<5	-
-------------------	------------	---	----	----	----	---

Alkalinity Method: AN135 Tested: 8/7/2025

Total Alkalinity as CaCO3	mg/L	5	390	13	290	-
Carbonate Alkalinity as CO3	mg/L	1	<1	<1	<1	-
Bicarbonate Alkalinity as HCO3	mg/L	5	480	16	350	-

Chloride by Discrete Analyser in Water Method: AN274 Tested: 14/7/2025

Chloride, Cl	mg/L	1	1700	180	34	-
--------------	------	---	------	-----	----	---

Sulfate in water Method: AN275 Tested: 14/7/2025

Sulfate, SO4	mg/L	1	220	41	140	-
--------------	------	---	-----	----	-----	---

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: AN258 Tested: 9/7/2025

Nitrite Nitrogen, NO2 as N	mg/L	0.05	<0.05	<0.05	<0.05	-
Nitrate Nitrogen, NO3 as N	mg/L	0.05	1.2	2.4	0.49	-

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 11/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	1.3	0.22	1.6	-
-------------------------	------	------	-----	------	-----	---



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.001	PE184202.002	PE184202.003	PE184202.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	T25-MW01	T25-MW18	T25-MW03	T25-MW30

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 8/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	0.034	<0.002	0.015	-
-------------------------------------	------	-------	-------	--------	-------	---

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 11/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.08	0.05	0.09	-
--	------	------	------	------	------	---

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 15/7/2025

Total Nitrogen (calc)	mg/L	0.05	2.5	2.6	2.1	-
-----------------------	------	------	-----	-----	-----	---

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 9/7/2025

Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	<0.05	<0.05	<0.05	-
--	------	------	-------	-------	-------	---

Redox Potential (Eh) in water Method: AN240 Tested: 8/7/2025

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	408	385	371	-
Temperature of Sample*	°C	0.1	19.1	21.2	21.2	-

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 8/7/2025

Temperature*	°C	-	17.3	-	-	-
Dissolved Oxygen**	mg/L	0.5	6.4	-	-	-
Dissolved Oxygen (percent saturation)**	%	1	66.2	-	-	-



ANALYTICAL REPORT

PE184202 R0

			Sample Number	PE184202.001	PE184202.002	PE184202.003	PE184202.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	T25-MW01	T25-MW18	T25-MW03	T25-MW30
Parameter	Units	LOR					

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 10/7/2025

Aluminium	µg/L	5	19	<5	14	1200
Arsenic	µg/L	0.5	1.5	<0.5	0.9	<0.5
Barium	µg/L	0.2	150	61	54	100
Beryllium	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Boron	µg/L	5	50	10	24	37
Cadmium	µg/L	0.05	0.17	<0.05	0.09	<0.05
Chromium	µg/L	0.5	3.4	<0.5	2.0	6.6
Cobalt	µg/L	0.5	2.4	<0.5	1.9	1.2
Copper	µg/L	0.5	14	3.7	4.6	6.3
Iron	µg/L	5	37	160	27	1600
Lead	µg/L	0.5	1.0	<0.5	0.7	8.7
Manganese	µg/L	1	13	9	41	210
Nickel	µg/L	1	12	<1	4	5
Selenium	µg/L	1	10	<1	1	<1
Vanadium	µg/L	0.5	14	2.0	3.0	4.0
Zinc	µg/L	1	32	5	37	14

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 10/7/2025

Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	0.00007
---------	------	---------	----------	----------	----------	---------

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 10/7/2025

Total Aluminium	µg/L	5	500	220	1100	2300
Total Iron	µg/L	5	800	360	1900	2100



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.005	PE184202.006	PE184202.007	PE184202.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	THEXT21-GW04	T25-MW05	DUP03	RINS03

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 15/7/2025

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	-
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	-
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	-
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	-
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	-
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	-
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	-
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	-
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	-
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	-
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	-



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.005	PE184202.006	PE184202.007	PE184202.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	THEXT21-GW04	T25-MW05	DUP03	RINS03

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 15/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	-
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	-
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	105	103	105	104
1,2-Dichloroethane_D4 (Surrogate)	%	-	95	95	97	97
Dibromofluoromethane (Surrogate)	%	-	99	100	101	101
p_Bromofluorobenzene (Surrogate)	%	-	99	98	97	97

VPH in Water MA-30 Method: MA30-VPH Tested: 15/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 15/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.005	PE184202.006	PE184202.007	PE184202.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	THEXT21-GW04	T25-MW05	DUP03	RINS03

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 15/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.010	0.029	0.010	<0.0005
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	0.0097	0.0043	0.0089	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0033	0.0035	0.0036	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0027	<0.0005	0.0028	<0.0005
Perfluorooctanoic acid (PFOA)	µg/L	0.0002	0.0023	0.0017	0.0024	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	0.002	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0003	<0.0002	0.0005	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	0.0003	0.0002	0.0005	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	0.0025	0.0008	0.0008	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	0.031	0.042	0.029	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	102	102	97
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	117	105	118	93
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	95	85	94	93
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	103	91	105	96
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	98	92	100	99
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	89	97	98	105
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	85	120	110	86
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	96	114	62	100
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	98	137	56	113
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	41	104	19	66
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	71	65	35	118
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	96	78	82	99
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	116	99	97	113
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	94	97	91	99
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	65	56	61	104
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	86	67	68	105
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	85	67	62	109
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	114	98	94	141
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	72	121	17	143
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	52	101	11	117
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	89	100	57	135
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	86	105	38	125
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	65	78	44	102
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	73	80	29	125

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 15/7/2025



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.005	PE184202.006	PE184202.007	PE184202.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	THEXT21-GW04	T25-MW05	DUP03	RINS03

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 15/7/2025 (continued)

Acenaphthene	µg/L	1	<1	<1	<1	-
Acenaphthylene	µg/L	1	<1	<1	<1	-
Anthracene	µg/L	1	<1	<1	<1	-
Benzo(a)anthracene	µg/L	1	<1	<1	<1	-
Benzo (a) pyrene	µg/L	1	<1	<1	<1	-
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	-
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	-
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	-
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	-
Chrysene	µg/L	1	<1	<1	<1	-
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	-
Fluoranthene	µg/L	1	<1	<1	<1	-
Fluorene	µg/L	1	<1	<1	<1	-
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	-
Naphthalene	µg/L	1	<1	<1	<1	-
Phenanthrene	µg/L	1	<1	<1	<1	-
Pyrene	µg/L	1	<1	<1	<1	-
Total PAHs	µg/L	8	<8	<8	<8	-
d14-p-terphenyl (Surrogate)	%	0.001	108	111	114	-
d5-nitrobenzene (Surrogate)	%	0.001	116	119	119	-
d6-phenol (Surrogate)	%	0.001	47	41	53	-
2-fluorobiphenyl (Surrogate)	%	0.001	68	68	74	-
2,4,6-tribromophenol (Surrogate)	%	0.001	148	142	158	-
2-fluorophenol (Surrogate)	%	0.001	64	62	118	-

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 15/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	-
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	-
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	-
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	-
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	-
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	-
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	-
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	-
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	-
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	-

pH in water Method: AN101 Tested: 8/7/2025

pH**	pH Units	-	7.0	7.9	7.0	-
------	----------	---	-----	-----	-----	---

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 8/7/2025

Conductivity @ 25 C	µS/cm	2	560	2400	570	-
---------------------	-------	---	-----	------	-----	---

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 10/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	450	1500	450	-
---	------	----	-----	------	-----	---



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.005	PE184202.006	PE184202.007	PE184202.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	THEXT21-GW04	T25-MW05	DUP03	RINS03

Acidity and Free CO₂ Method: AN140 Tested: 8/7/2025

Acidity to pH 8.3	mg CaCO ₃ /L	5	10	12	11	-
-------------------	-------------------------	---	----	----	----	---

Alkalinity Method: AN135 Tested: 8/7/2025

Total Alkalinity as CaCO ₃	mg/L	5	39	340	40	-
Carbonate Alkalinity as CO ₃	mg/L	1	<1	<1	<1	-
Bicarbonate Alkalinity as HCO ₃	mg/L	5	48	410	48	-

Chloride by Discrete Analyser in Water Method: AN274 Tested: 14/7/2025

Chloride, Cl	mg/L	1	120	420	110	-
--------------	------	---	-----	-----	-----	---

Sulfate in water Method: AN275 Tested: 14/7/2025

Sulfate, SO ₄	mg/L	1	93	340	84	-
--------------------------	------	---	----	-----	----	---

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA Method: AN258 Tested: 9/7/2025

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	<0.05	-
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05	<0.05	<0.05	-

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 11/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	1.1	1.2	1.1	-
-------------------------	------	------	-----	-----	-----	---



ANALYTICAL REPORT

PE184202 R0

Parameter	Units	LOR	Sample Number	PE184202.005	PE184202.006	PE184202.007	PE184202.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	THEXT21-GW04	T25-MW05	DUP03	RINS03

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 8/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	0.008	<0.002	0.008	-
-------------------------------------	------	-------	-------	--------	-------	---

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 11/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.05	0.04	0.06	-
--	------	------	------	------	------	---

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 15/7/2025

Total Nitrogen (calc)	mg/L	0.05	1.1	1.2	1.1	-
-----------------------	------	------	-----	-----	-----	---

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 9/7/2025

Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	<0.05	0.05	<0.05	-
--	------	------	-------	------	-------	---

Redox Potential (Eh) in water Method: AN240 Tested: 8/7/2025

Eh of Sample Relative to Standard H+ Electrode***	mV	-500	366	370	361	-
Temperature of Sample*	°C	0.1	20.8	20.4	20.1	-

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 8/7/2025

Temperature*	°C	-	17.2	17.5	17.6	-
Dissolved Oxygen**	mg/L	0.5	5.1	3.6	4.5	-
Dissolved Oxygen (percent saturation)**	%	1	52.8	38.4	47.6	-



ANALYTICAL REPORT

PE184202 R0

			Sample Number	PE184202.005	PE184202.006	PE184202.007	PE184202.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	THEXT21-GW04	T25-MW05	DUP03	RINS03
Parameter	Units	LOR					

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 10/7/2025

Aluminium	µg/L	5	80	5	76	-
Arsenic	µg/L	0.5	<0.5	1.6	<0.5	<0.5
Barium	µg/L	0.2	39	89	37	-
Beryllium	µg/L	0.1	<0.1	<0.1	<0.1	-
Boron	µg/L	5	30	26	29	-
Cadmium	µg/L	0.05	0.08	<0.05	0.07	<0.05
Chromium	µg/L	0.5	1.5	<0.5	1.3	<0.5
Cobalt	µg/L	0.5	0.8	2.3	0.8	-
Copper	µg/L	0.5	6.7	3.7	6.0	<0.5
Iron	µg/L	5	88	320	82	-
Lead	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Manganese	µg/L	1	46	170	44	-
Nickel	µg/L	1	3	3	2	<1
Selenium	µg/L	1	<1	<1	<1	-
Vanadium	µg/L	0.5	0.8	1.0	0.7	-
Zinc	µg/L	1	2	5	2	<1

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 10/7/2025

Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
---------	------	---------	----------	----------	----------	----------

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 10/7/2025

Total Aluminium	µg/L	5	2000	81	2100	-
Total Iron	µg/L	5	1300	640	1300	-



ANALYTICAL REPORT

PE184202 R0

		Sample Number	PE184202.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	FB/TB
Parameter	Units	LOR	

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 15/7/2025

Benzene	mg/L	0.001	-
Bromobenzene	mg/L	0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001
Bromomethane	mg/L	0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001
Chloroethane	mg/L	0.001	<0.001
Chloromethane	mg/L	0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001
Ethylbenzene	mg/L	0.001	-
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	-
Propylbenzene	mg/L	0.001	<0.001
Styrene	mg/L	0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001
Toluene	mg/L	0.001	-
Tribromomethane	mg/L	0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001



ANALYTICAL REPORT

PE184202 R0

		Sample Number	PE184202.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	FB/TB
Parameter	Units	LOR	

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 15/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	-
o-Xylene	mg/L	0.001	-
Xylenes	mg/L	0.001	-
Total Trichlorobenzenes	mg/L	0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002
Total BTEX	mg/L	0.001	-
Toluene-d8 (surrogate)	%	-	-
1,2-Dichloroethane_D4 (Surrogate)	%	-	-
Dibromofluoromethane (Surrogate)	%	-	-
p_Bromofluorobenzene (Surrogate)	%	-	-



ANALYTICAL REPORT

PE184202 R0

		Sample Number	PE184202.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	FB/TB
Parameter	Units	LOR	

VPH in Water MA-30 Method: MA30-VPH Tested: 15/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 15/7/2025

TRH C10-C14	mg/L	0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 15/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001	-
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	-
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	-
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	-
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	-
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	-
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	-
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	-
Sum of PFHxS and PFOS	µg/L	0.0002	-
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	-
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	-
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	-
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	-
Total PFAS (n=30)	µg/L	0.006	-
(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	%	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-



ANALYTICAL REPORT

PE184202 R0

			Sample Number	PE184202.009
			Sample Matrix	Water
			Sample Date	07 Jul 2025
			Sample Name	FB/TB
Parameter	Units	LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 15/7/2025 (continued)

(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-
(13C8-PFOsA) Isotopically Labelled Internal Recovery	%	-	-
(D3-N-MeFOsA) Isotopically Labelled Internal Recovery	%	-	-
(D5-N-EtFOsA) Isotopically Labelled Internal Recovery	%	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-
(D3-N-MeFOsAA) Isotopically Labelled Internal Recovery	%	-	-
(D5-N-EtFOsAA) Isotopically Labelled Internal Recovery	%	-	-



ANALYTICAL REPORT

PE184202 R0

		Sample Number	PE184202.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	FB/TB
Parameter	Units	LOR	

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 15/7/2025

Acenaphthene	µg/L	1	-
Acenaphthylene	µg/L	1	-
Anthracene	µg/L	1	-
Benzo(a)anthracene	µg/L	1	-
Benzo (a) pyrene	µg/L	1	-
Benzo (b) fluoranthene	µg/L	1	-
Benzo (ghi) perylene	µg/L	1	-
Benzo (k) fluoranthene	µg/L	1	-
Benzo (b+j+k) fluoranthene	µg/L	2	-
Chrysene	µg/L	1	-
Dibenz (ah) anthracene	µg/L	1	-
Fluoranthene	µg/L	1	-
Fluorene	µg/L	1	-
Indeno (1,2,3-cd) pyrene	µg/L	1	-
Naphthalene	µg/L	1	-
Phenanthrene	µg/L	1	-
Pyrene	µg/L	1	-
Total PAHs	µg/L	8	-
d14-p-terphenyl (Surrogate)	%	0.001	-
d5-nitrobenzene (Surrogate)	%	0.001	-
d6-phenol (Surrogate)	%	0.001	-
2-fluorobiphenyl (Surrogate)	%	0.001	-
2,4,6-tribromophenol (Surrogate)	%	0.001	-
2-fluorophenol (Surrogate)	%	0.001	-

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 15/7/2025

Acetone*	mg/L	0.02	-
Acrylonitrile*	mg/L	0.05	-
Carbon disulphide*	mg/L	0.005	-
1-Chloro-2-propene*	mg/L	0.001	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	-
2-Hexanone*	mg/L	0.001	-
Iodomethane*	mg/L	0.005	-
MEK (2-butanone)	mg/L	0.005	-
Methyl Isobutyl Ketone*	mg/L	0.005	-
Methyl tert-butyl ether*	mg/L	0.001	-
Vinyl Acetate*	mg/L	0.01	-



ANALYTICAL REPORT

PE184202 R0

		Sample Number	PE184202.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	FB/TB
Parameter	Units	LOR	

pH in water Method: AN101 Tested: 14/7/2025

pH**	pH Units	-	-
------	----------	---	---

Conductivity and TDS by Calculation - Water Method: AN106 Tested: 14/7/2025

Conductivity @ 25 C	µS/cm	2	-
---------------------	-------	---	---

Total Dissolved Solids (TDS) in water Method: AN113 Tested: 10/7/2025

Total Dissolved Solids Dried at 175-185°C	mg/L	10	-
---	------	----	---

Acidity and Free CO₂ Method: AN140 Tested: 11/7/2025

Acidity to pH 8.3	mg CaCO ₃ /L	5	-
-------------------	-------------------------	---	---

Alkalinity Method: AN135 Tested: 14/7/2025

Total Alkalinity as CaCO ₃	mg/L	5	-
Carbonate Alkalinity as CO ₃	mg/L	1	-
Bicarbonate Alkalinity as HCO ₃	mg/L	5	-

Chloride by Discrete Analyser in Water Method: AN274 Tested: 15/7/2025

Chloride, Cl	mg/L	1	-
--------------	------	---	---



ANALYTICAL REPORT

PE184202 R0

		Sample Number	PE184202.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	FB/TB
Parameter	Units	LOR	

Sulfate in water Method: AN275 Tested: 15/7/2025

Sulfate, SO4	mg/L	1	-
--------------	------	---	---

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: AN258 Tested: 12/7/2025

Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	-
Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	-

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281 Tested: 15/7/2025

Total Kjeldahl Nitrogen	mg/L	0.05	-
-------------------------	------	------	---

Filterable Reactive Phosphorus (FRP) Method: AN278 Tested: 9/7/2025

Filterable Reactive Phosphorus as P	mg/L	0.002	-
-------------------------------------	------	-------	---

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293(Sydney only) Tested: 15/7/2025

Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	-
--	------	------	---

Calculated Nitrogen Forms - TN, organic N, inorganic N Method: AN281/292 Tested: 15/7/2025

Total Nitrogen (calc)	mg/L	0.05	-
-----------------------	------	------	---



ANALYTICAL REPORT

PE184202 R0

		Sample Number	PE184202.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	FB/TB
Parameter	Units	LOR	

Ammonia Nitrogen by FIA Method: AN261/AN262 Tested: 10/7/2025

Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	-
--	------	------	---

Redox Potential (Eh) in water Method: AN240 Tested: 14/7/2025

Eh of Sample Relative to Standard H ⁺ Electrode***	mV	-500	-
Temperature of Sample*	°C	0.1	-

Dissolved Oxygen by Membrane Electrode Method: AN176 Tested: 11/7/2025

Temperature*	°C	-	-
Dissolved Oxygen**	mg/L	0.5	-
Dissolved Oxygen (percent saturation)**	%	1	-

Trace Metals (Dissolved) in Water by ICPMS TQe Method: AN318 Tested: 10/7/2025

Aluminium	µg/L	5	-
Arsenic	µg/L	0.5	-
Barium	µg/L	0.2	-
Beryllium	µg/L	0.1	-
Boron	µg/L	5	-
Cadmium	µg/L	0.05	-
Chromium	µg/L	0.5	-
Cobalt	µg/L	0.5	-
Copper	µg/L	0.5	-
Iron	µg/L	5	-
Lead	µg/L	0.5	-
Manganese	µg/L	1	-
Nickel	µg/L	1	-
Selenium	µg/L	1	-
Vanadium	µg/L	0.5	-
Zinc	µg/L	1	-



ANALYTICAL REPORT

PE184202 R0

		Sample Number	PE184202.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	FB/TB
Parameter	Units	LOR	

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 10/7/2025

Mercury	mg/L	0.00005	-
---------	------	---------	---

Trace Metals (Total) in Water by ICPMS TQe Method: AN022/AN318 Tested: 11/7/2025

Total Aluminium	µg/L	5	-
Total Iron	µg/L	5	-

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.

Acidity and Free CO₂ Method: ME-(AU)-[ENV]AN140

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acidity to pH 8.3	LB231669	mg CaCO ₃ /L	5	<5	18%	108%

Alkalinity Method: ME-(AU)-[ENV]AN135

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Alkalinity as CaCO ₃	LB231725	mg/L	5	<5	2 - 9%	96%
Carbonate Alkalinity as CO ₃	LB231725	mg/L	1	<1		
Bicarbonate Alkalinity as HCO ₃	LB231725	mg/L	5	<5		

Ammonia Nitrogen by FIA Method: ME-(AU)-[ENV]AN261/AN262

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Ammonia Nitrogen, NH ₃ as N	LB231651	mg/L	0.05	<0.05	0 - 1%	105%	93%

Chloride by Discrete Analyser in Water Method: ME-(AU)-[ENV]AN274

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Chloride, Cl	LB231815	mg/L	1	<1	2 - 8%	96%	104%

Conductivity and TDS by Calculation - Water Method: ME-(AU)-[ENV]AN106

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Conductivity @ 25 C	LB231818	µS/cm	2	<2	0 - 1%	98%

Dissolved Oxygen by Membrane Electrode Method: ME-(AU)-[ENV]AN176

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Temperature*	LB231671	°C	-	18.9		
Dissolved Oxygen**	LB231671	mg/L	0.5	<0.5	0%	119%
Dissolved Oxygen (percent saturation)**	LB231671	%	1	<1.0		

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.

Filterable Reactive Phosphorus (FRP) Method: ME-(AU)-[ENV]AN278

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Filterable Reactive Phosphorus as P	LB231668	mg/L	0.002	<0.002	0 - 8%	94%	104%

Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Mercury	LB231696	mg/L	0.00005	<0.00005	0 - 46%	115 - 116%	116 - 120%
	LB231829	mg/L	0.00005	<5e-005	3 - 5%	110 - 116%	106 - 108%

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: ME-(AU)-[ENV]AN258

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Nitrite Nitrogen, NO ₂ as N	LB231651	mg/L	0.05	<0.05	0%	92%	96%
Nitrate Nitrogen, NO ₃ as N	LB231651	mg/L	0.05	<0.05	2 - 3%	NA	NA

pH in water Method: ME-(AU)-[ENV]AN101

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
pH**	LB231818	pH Units	-	5.8	1%	100%

Redox Potential (Eh) in water Method: ME-(AU)-[ENV]AN240

Parameter	QC Reference	Units	LOR	DUP %RPD	LCS %Recovery
Eh of Sample Relative to Standard H+ Electrode***	LB231665	mV	-500	0%	105%

Sulfate in water Method: ME-(AU)-[ENV]AN275

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Sulfate, SO ₄	LB231815	mg/L	1	<1	5 - 15%	92 - 107%	91%

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.

TKN Kjeldahl Digestion by Discrete Analyser Method: ME-(AU)-[ENV]AN281

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Kjeldahl Nitrogen	LB231756	mg/L	0.05	<0.05	3 - 10%	94%

Total Dissolved Solids (TDS) in water Method: ME-(AU)-[ENV]AN113

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Total Dissolved Solids Dried at 175-185°C	LB231689	mg/L	10	<10	0 - 1%	104%	100%	1%

Total Phosphorus by Kjeldahl Digestion DA in Water Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Phosphorus (Kjeldahl Digestion) as P	LB231756	mg/L	0.02	<0.02	0 - 2%	106%

Trace Metals (Dissolved) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Aluminium	LB231677	µg/L	5	<5		110%	106%
	LB231731	µg/L	5	<5		113%	
Arsenic	LB231677	µg/L	0.5	<0.5	0%	102%	96%
	LB231731	µg/L	0.5	<0.5		100%	
Barium	LB231677	µg/L	0.2	<0.2	1 - 2%	114%	
	LB231731	µg/L	0.2	<0.2		115%	
Beryllium	LB231677	µg/L	0.1	<0.1		90%	
	LB231731	µg/L	0.1	<0.1		93%	
Boron	LB231677	µg/L	5	<5		94%	
	LB231731	µg/L	5	<5		88%	
Cadmium	LB231677	µg/L	0.05	<0.05		99%	
	LB231731	µg/L	0.05	<0.05		94%	
Chromium	LB231677	µg/L	0.5	<0.5		103%	
	LB231731	µg/L	0.5	<0.5		106%	
Cobalt	LB231677	µg/L	0.5	<0.5		96%	
	LB231731	µg/L	0.5	<0.5		90%	
Copper	LB231677	µg/L	0.5	<0.5	0%	96%	
	LB231731	µg/L	0.5	<0.5		93%	
Iron	LB231677	µg/L	5	<5	1%	103%	96%
	LB231731	µg/L	5	<5	0%	100%	94%
Lead	LB231677	µg/L	0.5	<0.5	0%	101%	
	LB231731	µg/L	0.5	<0.5		104%	
Manganese	LB231677	µg/L	1	<1	1 - 4%	110%	101%
	LB231731	µg/L	1	<1		104%	96%
Nickel	LB231677	µg/L	1	<1		104%	
	LB231731	µg/L	1	<1		97%	
Selenium	LB231677	µg/L	1	<1		104%	
	LB231731	µg/L	1	<1		104%	
Vanadium	LB231677	µg/L	0.5	<0.5	0%	101%	
	LB231731	µg/L	0.5	<0.5		105%	
Zinc	LB231677	µg/L	1	<1	0%	107%	
	LB231731	µg/L	1	<1		96%	



QC SUMMARY

PE184202 R0

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.

Trace Metals (Total) in Water by ICPMS TQe Method: ME-(AU)-[ENV]AN022/AN318

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
Total Aluminium	LB231675	µg/L	5	<5	2%	105%	NA
	LB231729	µg/L	5	<5	0%	98%	NA
Total Iron	LB231675	µg/L	5	<5	2%	NA	NA
	LB231729	µg/L	5	<5	0%	NA	NA

METHOD

METHODOLOGY SUMMARY

AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
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 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. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN140	Acidity by Titration: The water sample is titrated with sodium hydroxide to designated pH end point. In a sample containing only carbon dioxide, bicarbonates and carbonates, titration to pH 8.3 at 25°C corresponds to stoichiometric neutralisation of carbonic acid to bicarbonate. Method reference APHA 2310 B.
AN176	Dissolved Oxygen: DO can also be measured directly using an oxygen permeable membrane electrode and meter. Under steady state conditions the current is directly proportional to the DO conc. DO can also be measured via Luminescent dissolved oxygen probes (LDO) which also operates using an oxygen permeable membrane with an oxygen sensitive luminescent dye making up the second probe layer. The presence of oxygen causes changes in the lifetime and intensity of luminescence, which are then quantified. Zero headspace is required for sample analysis, if headspace is observed report comment will be recorded. Reference APHA 4500-C, G & O.
AN240	Oxidation-Reduction Potential (Eh): Electrometric measurements are made by potentiometric determination of electron activity (or intensity) with an inert indicator electrode and a suitable reference electrode. At redox equilibrium, the potential difference between the two electrodes equals the redox potential of the system. This measurement is then corrected for the difference between the potential of the reference electrode and that of the standard hydrogen electrode.
AN258	Nitrate and Nitrite by FIA: In an acidic medium, nitrate is reduced quantitatively to nitrite by cadmium metal. This nitrite plus any original nitrite is determined as an intense red-pink azo dye at 540 nm following diazotisation with sulphanilamide and subsequent coupling with N-(1-naphthyl) ethylenediamine dihydrochloride. Without the cadmium reduction only the original nitrite is determined. Reference APHA 4500-NO3- F.
AN262	Ammonia in solution is reacted with o-phthalaldehyde (OPA) to form a fluorescent compound. The reaction product is detected by a fluorimeter and the response is measured via FIA using a photomultiplier detector. The response is directly proportional to the concentration of ammonia in the sample.

METHOD

METHODOLOGY SUMMARY

AN274	Chloride by Discrete Analyse: Chloride reacts with mercuric thiocyanate forming a mercuric chloride complex. In the presence of ferric iron, highly coloured ferric thiocyanate is formed which is proportional to the chloride concentration. Reference APHA 4500CI-
AN275	Sulfate by Discrete Analyse: sulfate is precipitated in an acidic medium with barium chloride. The resulting turbidity is measured photometrically at 405nm and compared with standard calibration solutions to determine the sulfate concentration in the sample. Reference APHA 4500-SO42-. Internal reference AN275.
AN278	Filterable Reactive Phosphorus by DA (determined on filtered sample): Orthophosphate reacts with ammonium molybdate (Mo VI) and potassium antimonyl tartrate (Sb III) in acid medium to form an antimony-phosphomolybdate complex. This complex is subsequently reduced with ascorbic acid to form a blue colour and the absorbance is read at 880 nm. The sensitivity of the automated method is 10-20 times that of the macro method. Reference APHA 4500-P F
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digester with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.
AN281/292	Calculation of total nitrogen and organic nitrogen.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: 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.
AN318	Determination of elements at trace level in waters by ICP-MS technique, referenced to USEPA 6020B and USEPA 200.8 (5.4).
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.
EPA 8260B-01	This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).
EPA8260B	Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

METHOD

METHODOLOGY SUMMARY

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40.

The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions".

Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS)

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC–QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting .

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

PE184202 R0

CLIENT DETAILS

Contact Matt Trenorden
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email matt.t@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 9

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

SGS Reference **PE184202 R0**
Date Received 08 Jul 2025
Date Reported 17 Jul 2025

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:

Surrogate	SVOC Compounds in Waters by GC-QQQ	6 items
Duplicate	Sulfate in water	1 item
LCS	Dissolved Oxygen by Membrane Electrode	1 item
Matrix Spike	Sulfate in water	1 item

SAMPLE SUMMARY

Date documentation received	8/7/2025	Sample counts by matrix	9 Water
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	18.6-20.2°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	2		

SGS Australia Pty Ltd
ABN 44 000 964 278

Environment, Health and
Safety

28 Reid Rd
PO Box 32
Perth Airport WA 6105
Welshpool WA 6983

Australia t +61 8 9373 3500
Australia f +61 8 9373 3556

www.sgs.com.au



HOLDING TIME SUMMARY

PE184202 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 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.

Acidity and Free CO₂

Method: ME-(AU)-ENVJAN140

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231669	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
T25-MW18	PE184202.002	LB231669	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
T25-MW03	PE184202.003	LB231669	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
THEXT21-GW04	PE184202.005	LB231669	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
T25-MW05	PE184202.006	LB231669	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
DUP03	PE184202.007	LB231669	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025

Alkalinity

Method: ME-(AU)-ENVJAN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231725	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
T25-MW18	PE184202.002	LB231725	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
T25-MW03	PE184202.003	LB231725	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
THEXT21-GW04	PE184202.005	LB231725	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
T25-MW05	PE184202.006	LB231725	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025
DUP03	PE184202.007	LB231725	07 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025	21 Jul 2025	08 Jul 2025

Ammonia Nitrogen by FIA

Method: ME-(AU)-ENVJAN261/AN262

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231651	07 Jul 2025	08 Jul 2025	04 Aug 2025	09 Jul 2025	04 Aug 2025	09 Jul 2025
T25-MW18	PE184202.002	LB231651	07 Jul 2025	08 Jul 2025	04 Aug 2025	09 Jul 2025	04 Aug 2025	09 Jul 2025
T25-MW03	PE184202.003	LB231651	07 Jul 2025	08 Jul 2025	04 Aug 2025	09 Jul 2025	04 Aug 2025	09 Jul 2025
THEXT21-GW04	PE184202.005	LB231651	07 Jul 2025	08 Jul 2025	04 Aug 2025	09 Jul 2025	04 Aug 2025	09 Jul 2025
T25-MW05	PE184202.006	LB231651	07 Jul 2025	08 Jul 2025	04 Aug 2025	09 Jul 2025	04 Aug 2025	09 Jul 2025
DUP03	PE184202.007	LB231651	07 Jul 2025	08 Jul 2025	04 Aug 2025	09 Jul 2025	04 Aug 2025	09 Jul 2025

Chloride by Discrete Analyser in Water

Method: ME-(AU)-ENVJAN274

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW18	PE184202.002	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW03	PE184202.003	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
THEXT21-GW04	PE184202.005	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW05	PE184202.006	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
DUP03	PE184202.007	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-ENVJAN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231818	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
T25-MW18	PE184202.002	LB231818	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
T25-MW03	PE184202.003	LB231818	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
T25-MW30	PE184202.004	LB231818	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
THEXT21-GW04	PE184202.005	LB231818	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
T25-MW05	PE184202.006	LB231818	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
DUP03	PE184202.007	LB231818	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-ENVJAN176

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231671	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
THEXT21-GW04	PE184202.005	LB231671	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
T25-MW05	PE184202.006	LB231671	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
DUP03	PE184202.007	LB231671	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-ENVJAN278

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231668	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
T25-MW18	PE184202.002	LB231668	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
T25-MW03	PE184202.003	LB231668	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
THEXT21-GW04	PE184202.005	LB231668	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
T25-MW05	PE184202.006	LB231668	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025
DUP03	PE184202.007	LB231668	07 Jul 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025	04 Aug 2025	08 Jul 2025

Mercury (dissolved) in Water

Method: ME-(AU)-ENVJAN311(Perth)/JAN312

Sample Name	Sample No.	QC Ref
-------------	------------	--------



HOLDING TIME SUMMARY

PE184202 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 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.

Mercury (dissolved) in Water (continued)

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231696	07 Jul 2025	08 Jul 2025	04 Aug 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025
T25-MW18	PE184202.002	LB231696	07 Jul 2025	08 Jul 2025	04 Aug 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025
T25-MW03	PE184202.003	LB231696	07 Jul 2025	08 Jul 2025	04 Aug 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025
T25-MW30	PE184202.004	LB231829	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
THEXT21-GW04	PE184202.005	LB231696	07 Jul 2025	08 Jul 2025	04 Aug 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025
T25-MW05	PE184202.006	LB231696	07 Jul 2025	08 Jul 2025	04 Aug 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025
DUP03	PE184202.007	LB231696	07 Jul 2025	08 Jul 2025	04 Aug 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025
RINS03	PE184202.008	LB231696	07 Jul 2025	08 Jul 2025	04 Aug 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025
FB/TB	PE184202.009	LB231696	07 Jul 2025	08 Jul 2025	04 Aug 2025	10 Jul 2025	04 Aug 2025	16 Jul 2025

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231651	07 Jul 2025	08 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025
T25-MW18	PE184202.002	LB231651	07 Jul 2025	08 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025
T25-MW03	PE184202.003	LB231651	07 Jul 2025	08 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025
THEXT21-GW04	PE184202.005	LB231651	07 Jul 2025	08 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025
T25-MW05	PE184202.006	LB231651	07 Jul 2025	08 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025
DUP03	PE184202.007	LB231651	07 Jul 2025	08 Jul 2025	11 Jul 2025	09 Jul 2025	11 Jul 2025	09 Jul 2025

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231818	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
T25-MW18	PE184202.002	LB231818	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
T25-MW03	PE184202.003	LB231818	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
T25-MW30	PE184202.004	LB231818	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
THEXT21-GW04	PE184202.005	LB231818	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
T25-MW05	PE184202.006	LB231818	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
DUP03	PE184202.007	LB231818	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231665	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
T25-MW18	PE184202.002	LB231665	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
T25-MW03	PE184202.003	LB231665	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
THEXT21-GW04	PE184202.005	LB231665	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
T25-MW05	PE184202.006	LB231665	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025
DUP03	PE184202.007	LB231665	07 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025	08 Jul 2025

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW18	PE184202.002	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW03	PE184202.003	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
THEXT21-GW04	PE184202.005	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW05	PE184202.006	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025
DUP03	PE184202.007	LB231815	07 Jul 2025	08 Jul 2025	04 Aug 2025	14 Jul 2025	04 Aug 2025	15 Jul 2025

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW18	PE184202.002	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW03	PE184202.003	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
THEXT21-GW04	PE184202.005	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW05	PE184202.006	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
DUP03	PE184202.007	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231689	07 Jul 2025	08 Jul 2025	14 Jul 2025	10 Jul 2025	14 Jul 2025	10 Jul 2025
T25-MW18	PE184202.002	LB231689	07 Jul 2025	08 Jul 2025	14 Jul 2025	10 Jul 2025	14 Jul 2025	10 Jul 2025
T25-MW03	PE184202.003	LB231689	07 Jul 2025	08 Jul 2025	14 Jul 2025	10 Jul 2025	14 Jul 2025	10 Jul 2025
THEXT21-GW04	PE184202.005	LB231689	07 Jul 2025	08 Jul 2025	14 Jul 2025	10 Jul 2025	14 Jul 2025	10 Jul 2025
T25-MW05	PE184202.006	LB231689	07 Jul 2025	08 Jul 2025	14 Jul 2025	10 Jul 2025	14 Jul 2025	10 Jul 2025



HOLDING TIME SUMMARY

PE184202 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 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.

Total Dissolved Solids (TDS) in water (continued)

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP03	PE184202.007	LB231689	07 Jul 2025	08 Jul 2025	14 Jul 2025	10 Jul 2025	14 Jul 2025	10 Jul 2025

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW18	PE184202.002	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW03	PE184202.003	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
THEXT21-GW04	PE184202.005	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
T25-MW05	PE184202.006	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025
DUP03	PE184202.007	LB231756	07 Jul 2025	08 Jul 2025	04 Aug 2025	11 Jul 2025	04 Aug 2025	15 Jul 2025

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231677	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
T25-MW18	PE184202.002	LB231677	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
T25-MW03	PE184202.003	LB231677	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
T25-MW30	PE184202.004	LB231731	07 Jul 2025	08 Jul 2025	03 Jan 2026	11 Jul 2025	03 Jan 2026	14 Jul 2025
THEXT21-GW04	PE184202.005	LB231677	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
T25-MW05	PE184202.006	LB231677	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
DUP03	PE184202.007	LB231677	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
RINS03	PE184202.008	LB231677	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
FB/TB	PE184202.009	LB231677	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	16 Jul 2025

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T25-MW01	PE184202.001	LB231675	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
T25-MW18	PE184202.002	LB231675	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
T25-MW03	PE184202.003	LB231675	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
T25-MW30	PE184202.004	LB231729	07 Jul 2025	08 Jul 2025	03 Jan 2026	11 Jul 2025	03 Jan 2026	14 Jul 2025
THEXT21-GW04	PE184202.005	LB231675	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
T25-MW05	PE184202.006	LB231675	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025
DUP03	PE184202.007	LB231675	07 Jul 2025	08 Jul 2025	03 Jan 2026	10 Jul 2025	03 Jan 2026	11 Jul 2025



SURROGATES

PE184202 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	29
	T25-MW18	PE184202.002	%	10 - 150%	53
	T25-MW03	PE184202.003	%	10 - 150%	37
	THEXT21-GW04	PE184202.005	%	10 - 150%	41
	T25-MW05	PE184202.006	%	10 - 150%	104
	DUP03	PE184202.007	%	10 - 150%	19
	RINS03	PE184202.008	%	10 - 150%	66
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	65
	T25-MW18	PE184202.002	%	10 - 150%	59
	T25-MW03	PE184202.003	%	10 - 150%	77
	THEXT21-GW04	PE184202.005	%	10 - 150%	65
	T25-MW05	PE184202.006	%	10 - 150%	56
	DUP03	PE184202.007	%	10 - 150%	61
	RINS03	PE184202.008	%	10 - 150%	104
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	87
	T25-MW18	PE184202.002	%	10 - 150%	54
	T25-MW03	PE184202.003	%	10 - 150%	106
	THEXT21-GW04	PE184202.005	%	10 - 150%	86
	T25-MW05	PE184202.006	%	10 - 150%	67
	DUP03	PE184202.007	%	10 - 150%	68
	RINS03	PE184202.008	%	10 - 150%	105
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	76
	T25-MW18	PE184202.002	%	10 - 150%	49
	T25-MW03	PE184202.003	%	10 - 150%	109
	THEXT21-GW04	PE184202.005	%	10 - 150%	85
	T25-MW05	PE184202.006	%	10 - 150%	67
	DUP03	PE184202.007	%	10 - 150%	62
	RINS03	PE184202.008	%	10 - 150%	109
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	99
	T25-MW18	PE184202.002	%	10 - 150%	112
	T25-MW03	PE184202.003	%	10 - 150%	108
	THEXT21-GW04	PE184202.005	%	10 - 150%	98
	T25-MW05	PE184202.006	%	10 - 150%	137
	DUP03	PE184202.007	%	10 - 150%	56
	RINS03	PE184202.008	%	10 - 150%	113
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	50
	T25-MW18	PE184202.002	%	10 - 150%	67
	T25-MW03	PE184202.003	%	10 - 150%	57
	THEXT21-GW04	PE184202.005	%	10 - 150%	71
	T25-MW05	PE184202.006	%	10 - 150%	65
	DUP03	PE184202.007	%	10 - 150%	35
	RINS03	PE184202.008	%	10 - 150%	118
(13C3-PFBFS) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	78
	T25-MW18	PE184202.002	%	10 - 150%	85
	T25-MW03	PE184202.003	%	10 - 150%	83
	THEXT21-GW04	PE184202.005	%	10 - 150%	96
	T25-MW05	PE184202.006	%	10 - 150%	78
	DUP03	PE184202.007	%	10 - 150%	82
	RINS03	PE184202.008	%	10 - 150%	99
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	100
	T25-MW18	PE184202.002	%	10 - 150%	98
	T25-MW03	PE184202.003	%	10 - 150%	104
	THEXT21-GW04	PE184202.005	%	10 - 150%	116
	T25-MW05	PE184202.006	%	10 - 150%	99
	DUP03	PE184202.007	%	10 - 150%	97
	RINS03	PE184202.008	%	10 - 150%	113
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	97
	T25-MW18	PE184202.002	%	10 - 150%	98
	T25-MW03	PE184202.003	%	10 - 150%	102
	THEXT21-GW04	PE184202.005	%	10 - 150%	98
	T25-MW05	PE184202.006	%	10 - 150%	92



SURROGATES

PE184202 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	DUP03	PE184202.007	%	10 - 150%	100
	RINS03	PE184202.008	%	10 - 150%	99
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	101
	T25-MW18	PE184202.002	%	10 - 150%	101
	T25-MW03	PE184202.003	%	10 - 150%	98
	THEXT21-GW04	PE184202.005	%	10 - 150%	100
	T25-MW05	PE184202.006	%	10 - 150%	102
	DUP03	PE184202.007	%	10 - 150%	102
	RINS03	PE184202.008	%	10 - 150%	97
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	95
	T25-MW18	PE184202.002	%	10 - 150%	94
	T25-MW03	PE184202.003	%	10 - 150%	99
	THEXT21-GW04	PE184202.005	%	10 - 150%	103
	T25-MW05	PE184202.006	%	10 - 150%	91
	DUP03	PE184202.007	%	10 - 150%	105
	RINS03	PE184202.008	%	10 - 150%	96
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	90
	T25-MW18	PE184202.002	%	10 - 150%	89
	T25-MW03	PE184202.003	%	10 - 150%	92
	THEXT21-GW04	PE184202.005	%	10 - 150%	95
	T25-MW05	PE184202.006	%	10 - 150%	85
	DUP03	PE184202.007	%	10 - 150%	94
	RINS03	PE184202.008	%	10 - 150%	93
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	106
	T25-MW18	PE184202.002	%	10 - 150%	104
	T25-MW03	PE184202.003	%	10 - 150%	104
	THEXT21-GW04	PE184202.005	%	10 - 150%	117
	T25-MW05	PE184202.006	%	10 - 150%	105
	DUP03	PE184202.007	%	10 - 150%	118
	RINS03	PE184202.008	%	10 - 150%	93
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	108
	T25-MW18	PE184202.002	%	10 - 150%	96
	T25-MW03	PE184202.003	%	10 - 150%	96
	THEXT21-GW04	PE184202.005	%	10 - 150%	85
	T25-MW05	PE184202.006	%	10 - 150%	120
	DUP03	PE184202.007	%	10 - 150%	110
	RINS03	PE184202.008	%	10 - 150%	86
(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	97
	T25-MW18	PE184202.002	%	10 - 150%	91
	T25-MW03	PE184202.003	%	10 - 150%	89
	THEXT21-GW04	PE184202.005	%	10 - 150%	96
	T25-MW05	PE184202.006	%	10 - 150%	114
	DUP03	PE184202.007	%	10 - 150%	62
	RINS03	PE184202.008	%	10 - 150%	100
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	107
	T25-MW18	PE184202.002	%	10 - 150%	98
	T25-MW03	PE184202.003	%	10 - 150%	116
	THEXT21-GW04	PE184202.005	%	10 - 150%	94
	T25-MW05	PE184202.006	%	10 - 150%	97
	DUP03	PE184202.007	%	10 - 150%	91
	RINS03	PE184202.008	%	10 - 150%	99
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	101
	T25-MW18	PE184202.002	%	10 - 150%	115
	T25-MW03	PE184202.003	%	10 - 150%	123
	THEXT21-GW04	PE184202.005	%	10 - 150%	114
	T25-MW05	PE184202.006	%	10 - 150%	98
	DUP03	PE184202.007	%	10 - 150%	94
	RINS03	PE184202.008	%	10 - 150%	141
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	92
	T25-MW18	PE184202.002	%	10 - 150%	97
	T25-MW03	PE184202.003	%	10 - 150%	93



SURROGATES

PE184202 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	THEXT21-GW04	PE184202.005	%	10 - 150%	89
	T25-MW05	PE184202.006	%	10 - 150%	97
	DUP03	PE184202.007	%	10 - 150%	98
	RINS03	PE184202.008	%	10 - 150%	105
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	T25-MW01	PE184202.001	%	10 - 150%	83
	T25-MW18	PE184202.002	%	10 - 150%	72
	T25-MW03	PE184202.003	%	10 - 150%	55
	THEXT21-GW04	PE184202.005	%	10 - 150%	72
	T25-MW05	PE184202.006	%	10 - 150%	121
	DUP03	PE184202.007	%	10 - 150%	17
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	RINS03	PE184202.008	%	10 - 150%	143
	T25-MW01	PE184202.001	%	10 - 150%	62
	T25-MW18	PE184202.002	%	10 - 150%	69
	T25-MW03	PE184202.003	%	10 - 150%	83
	THEXT21-GW04	PE184202.005	%	10 - 150%	65
	T25-MW05	PE184202.006	%	10 - 150%	78
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	DUP03	PE184202.007	%	10 - 150%	44
	RINS03	PE184202.008	%	10 - 150%	102
	T25-MW01	PE184202.001	%	10 - 150%	12
	T25-MW18	PE184202.002	%	10 - 150%	67
	T25-MW03	PE184202.003	%	10 - 150%	20
	THEXT21-GW04	PE184202.005	%	10 - 150%	52
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	T25-MW05	PE184202.006	%	10 - 150%	101
	DUP03	PE184202.007	%	10 - 150%	11
	RINS03	PE184202.008	%	10 - 150%	117
	T25-MW01	PE184202.001	%	10 - 150%	74
	T25-MW18	PE184202.002	%	10 - 150%	65
	T25-MW03	PE184202.003	%	10 - 150%	88
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	THEXT21-GW04	PE184202.005	%	10 - 150%	73
	T25-MW05	PE184202.006	%	10 - 150%	80
	DUP03	PE184202.007	%	10 - 150%	29
	RINS03	PE184202.008	%	10 - 150%	125
	T25-MW01	PE184202.001	%	10 - 150%	63
	T25-MW18	PE184202.002	%	10 - 150%	107
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	T25-MW03	PE184202.003	%	10 - 150%	98
	THEXT21-GW04	PE184202.005	%	10 - 150%	89
	T25-MW05	PE184202.006	%	10 - 150%	100
	DUP03	PE184202.007	%	10 - 150%	57
	RINS03	PE184202.008	%	10 - 150%	135
	T25-MW01	PE184202.001	%	10 - 150%	56
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	T25-MW18	PE184202.002	%	10 - 150%	95
	T25-MW03	PE184202.003	%	10 - 150%	86
	THEXT21-GW04	PE184202.005	%	10 - 150%	86
	T25-MW05	PE184202.006	%	10 - 150%	105
	DUP03	PE184202.007	%	10 - 150%	38
	RINS03	PE184202.008	%	10 - 150%	125

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	T25-MW01	PE184202.001	%	40 - 130%	129
	T25-MW18	PE184202.002	%	40 - 130%	123
	T25-MW03	PE184202.003	%	40 - 130%	117
	T25-MW30	PE184202.004	%	40 - 130%	153 †
	THEXT21-GW04	PE184202.005	%	40 - 130%	148 †
	T25-MW05	PE184202.006	%	40 - 130%	142 †
	DUP03	PE184202.007	%	40 - 130%	158 †
2-fluorobiphenyl (Surrogate)	T25-MW01	PE184202.001	%	40 - 130%	88
	T25-MW18	PE184202.002	%	40 - 130%	69
	T25-MW03	PE184202.003	%	40 - 130%	78
	T25-MW30	PE184202.004	%	40 - 130%	65
	THEXT21-GW04	PE184202.005	%	40 - 130%	68



SURROGATES

PE184202 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	T25-MW05	PE184202.006	%	40 - 130%	68
	DUP03	PE184202.007	%	40 - 130%	74
2-fluorophenol (Surrogate)	T25-MW01	PE184202.001	%	40 - 130%	59
	T25-MW18	PE184202.002	%	40 - 130%	56
	T25-MW03	PE184202.003	%	40 - 130%	46
	T25-MW30	PE184202.004	%	40 - 130%	66
	THEXT21-GW04	PE184202.005	%	40 - 130%	64
	T25-MW05	PE184202.006	%	40 - 130%	62
	DUP03	PE184202.007	%	40 - 130%	118
d14-p-terphenyl (Surrogate)	T25-MW01	PE184202.001	%	40 - 130%	109
	T25-MW18	PE184202.002	%	40 - 130%	104
	T25-MW03	PE184202.003	%	40 - 130%	113
	T25-MW30	PE184202.004	%	40 - 130%	111
	THEXT21-GW04	PE184202.005	%	40 - 130%	108
	T25-MW05	PE184202.006	%	40 - 130%	111
d5-nitrobenzene (Surrogate)	DUP03	PE184202.007	%	40 - 130%	114
	T25-MW01	PE184202.001	%	40 - 130%	115
	T25-MW18	PE184202.002	%	40 - 130%	118
	T25-MW03	PE184202.003	%	40 - 130%	118
	T25-MW30	PE184202.004	%	40 - 130%	115
	THEXT21-GW04	PE184202.005	%	40 - 130%	116
	T25-MW05	PE184202.006	%	40 - 130%	119
d6-phenol (Surrogate)	DUP03	PE184202.007	%	40 - 130%	119
	T25-MW01	PE184202.001	%	40 - 130%	42
	T25-MW18	PE184202.002	%	40 - 130%	37 ↑
	T25-MW03	PE184202.003	%	40 - 130%	32 ↑
	T25-MW30	PE184202.004	%	40 - 130%	48
	THEXT21-GW04	PE184202.005	%	40 - 130%	47
	T25-MW05	PE184202.006	%	40 - 130%	41
	DUP03	PE184202.007	%	40 - 130%	53

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	T25-MW01	PE184202.001	%	60 - 130%	94
	THEXT21-GW04	PE184202.005	%	60 - 130%	95
	T25-MW05	PE184202.006	%	60 - 130%	95
	DUP03	PE184202.007	%	60 - 130%	97
	RINS03	PE184202.008	%	60 - 130%	97
Dibromofluoromethane (Surrogate)	T25-MW01	PE184202.001	%	60 - 130%	98
	THEXT21-GW04	PE184202.005	%	60 - 130%	99
	T25-MW05	PE184202.006	%	60 - 130%	100
	DUP03	PE184202.007	%	60 - 130%	101
	RINS03	PE184202.008	%	60 - 130%	101
p_Bromofluorobenzene (Surrogate)	T25-MW01	PE184202.001	%	60 - 130%	100
	THEXT21-GW04	PE184202.005	%	60 - 130%	99
	T25-MW05	PE184202.006	%	60 - 130%	98
	DUP03	PE184202.007	%	60 - 130%	97
	RINS03	PE184202.008	%	60 - 130%	97
Toluene-d8 (surrogate)	T25-MW01	PE184202.001	%	60 - 130%	105
	THEXT21-GW04	PE184202.005	%	60 - 130%	105
	T25-MW05	PE184202.006	%	60 - 130%	103
	DUP03	PE184202.007	%	60 - 130%	105
	RINS03	PE184202.008	%	60 - 130%	104



METHOD BLANKS

PE184202 R0

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.

Acidity and Free CO₂

Method: ME-(AU)-[ENV]AN140

Sample Number	Parameter	Units	LOR	Result
LB231669.001	Acidity to pH 8.3	mg CaCO ₃ /L	5	<5

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB231725.001	Total Alkalinity as CaCO ₃	mg/L	5	<5

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Number	Parameter	Units	LOR	Result
LB231651.001	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	<0.05

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result
LB231815.001	Chloride, Cl	mg/L	1	<1
LB231815.025	Chloride, Cl	mg/L	1	<1
LB231815.049	Chloride, Cl	mg/L	1	<1

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result
LB231818.001	Conductivity @ 25 C	µS/cm	2	<2

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Number	Parameter	Units	LOR	Result
LB231671.001	Dissolved Oxygen**	mg/L	0.5	<0.5

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result
LB231668.001	Filterable Reactive Phosphorus as P	mg/L	0.002	<0.002

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB231696.001	Mercury	mg/L	0.00005	<0.00005
LB231696.026	Mercury	mg/L	0.00005	<0.00005
LB231829.001	Mercury	mg/L	0.00005	<5e-005
LB231829.026	Mercury	mg/L	0.00005	<5e-005

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Number	Parameter	Units	LOR	Result
LB231651.001	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05
	Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	<0.05

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result
LB231818.001	pH**	pH Units	-	5.8

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR	Result
LB231815.001	Sulfate, SO ₄	mg/L	1	<1
LB231815.025	Sulfate, SO ₄	mg/L	1	<1
LB231815.049	Sulfate, SO ₄	mg/L	1	<1



METHOD BLANKS

PE184202 R0

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.

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result
LB231756.001	Total Kjeldahl Nitrogen	mg/L	0.05	<0.05

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result
LB231689.001	Total Dissolved Solids Dried at 175-185°C	mg/L	10	<10

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result
LB231756.001	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB231677.001	Aluminium	µg/L	5	<5
	Arsenic	µg/L	0.5	<0.5
	Barium	µg/L	0.2	<0.2
	Beryllium	µg/L	0.1	<0.1
	Boron	µg/L	5	<5
	Cadmium	µg/L	0.05	<0.05
	Chromium	µg/L	0.5	<0.5
	Cobalt	µg/L	0.5	<0.5
	Copper	µg/L	0.5	<0.5
	Iron	µg/L	5	<5
	Lead	µg/L	0.5	<0.5
	Manganese	µg/L	1	<1
	Nickel	µg/L	1	<1
	Selenium	µg/L	1	<1
	Vanadium	µg/L	0.5	<0.5
	Zinc	µg/L	1	<1
LB231731.001	Aluminium	µg/L	5	<5
	Arsenic	µg/L	0.5	<0.5
	Barium	µg/L	0.2	<0.2
	Beryllium	µg/L	0.1	<0.1
	Boron	µg/L	5	<5
	Cadmium	µg/L	0.05	<0.05
	Chromium	µg/L	0.5	<0.5
	Cobalt	µg/L	0.5	<0.5
	Copper	µg/L	0.5	<0.5
	Iron	µg/L	5	<5
	Lead	µg/L	0.5	<0.5
	Manganese	µg/L	1	<1
	Nickel	µg/L	1	<1
	Selenium	µg/L	1	<1
	Vanadium	µg/L	0.5	<0.5
	Zinc	µg/L	1	<1

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB231675.001	Total Aluminium	µg/L	5	<5
LB231729.001	Total Aluminium	µg/L	5	<5

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.

Acidity and Free CO2

Method: ME-(AU)-[ENV]JAN140

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184202.007	LB231669.009	Acidity to pH 8.3	mg CaCO3/L	5	11	9	65	18

Alkalinity

Method: ME-(AU)-[ENV]JAN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183562A.004	LB231725.012	Total Alkalinity as CaCO3	mg/L	5	310	310	17	2
PE184202.002	LB231725.019	Total Alkalinity as CaCO3	mg/L	5	13	12	55	9

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]JAN261/AN262

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184231.004	LB231651.013	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	6.0	6.0	16	1
PE184231.006	LB231651.017	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	<0.05	<0.05	200	0

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]JAN274

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183170B.005	LB231815.014	Chloride, Cl	mg/L	1	87	94	16	8
PE184202.001	LB231815.040	Chloride, Cl	mg/L	1	1700	1600	15	7
PE184240.001	LB231815.053	Chloride, Cl	mg/L	1	190	190	16	2

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]JAN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183562A.004	LB231818.023	Conductivity @ 25 C	µS/cm	2	2700	2700	15	0
PE184202.002	LB231818.014	Conductivity @ 25 C	µS/cm	2	730	720	15	1

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]JAN176

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184202.007	LB231671.007	Dissolved Oxygen**	mg/L	0.5	4.5	4.5	26	0

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]JAN278

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184202.007	LB231668.011	Filterable Reactive Phosphorus as P	mg/L	0.002	0.008	0.009	72	8
PE184231.006	LB231668.018	Filterable Reactive Phosphorus as P	mg/L	0.002	0.006	0.006	104	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]JAN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183170B.005	LB231696.014	Mercury	µg/L	0.00005	<0.00005	<0.00005	200	0
PE184079.001	LB231696.041	Mercury	µg/L	0.00005	<0.00005	<0.00005	200	0
PE184202.006	LB231696.029	Mercury	µg/L	0.00005	<0.00005	0.00001	200	46
PE184282.005	LB231829.015	Mercury	µg/L	0.00005	0.038	0.039	145	3
PE184354.007	LB231829.029	Mercury	µg/L	0.00005	0.038	0.04	143	5
PE184354.009	LB231829.032	Mercury	µg/L	0.00005	0.04	0.029	160	32

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]JAN258

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184231.004	LB231651.013	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	200	0
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.09	0.09	69	2
PE184231.006	LB231651.017	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	<0.05	<0.05	200	0
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.17	0.17	44	3

pH in water

Method: ME-(AU)-[ENV]JAN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184202.002	LB231818.013	pH**	pH Units	-	6.4	6.4	17	1



DUPLICATES

PE184202 R0

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.

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184202.007	LB231665.009	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	361	361	15	0

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183170B.005	LB231815.014	Sulfate, SO4	mg/L	1	62	65	17	4
PE184202.001	LB231815.041	Sulfate, SO4	mg/L	1	220	260	15	15 +
PE184241.001	LB231815.056	Sulfate, SO4	mg/L	1	48	50	17	5

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184222.003	LB231756.024	Total Kjeldahl Nitrogen	mg/L	0.05	19	19	15	3
PE184241.001	LB231756.035	Total Kjeldahl Nitrogen	mg/L	0.05	74	77	15	3
PE184256.006	LB231756.042	Total Kjeldahl Nitrogen	mg/L	0.05	2.4	2.6	17	10

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184202.007	LB231689.016	Total Dissolved Solids Dried at 175-185°C	mg/L	10	450	450	17	0
PE184248.001	LB231689.026	Total Dissolved Solids Dried at 175-185°C	mg/L	10	750	740	16	1

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183564A.002	LB231756.013	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02	<0.02	200	0
PE184222.003	LB231756.024	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	7.3	7.2	15	2
PE184241.001	LB231756.035	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	2.4	2.1	16	13
PE184256.006	LB231756.042	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	1.7	1.7	16	0

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184234.001	LB231677.016	Barium	µg/L	0.2	94	96	15	2
		Copper	µg/L	0.5	<0.5	<0.5	200	0
		Iron	µg/L	5	310	310	17	1
		Lead	µg/L	0.5	<0.5	<0.5	200	0
		Vanadium	µg/L	0.5	<0.5	<0.5	200	0
		Zinc	µg/L	1	<1	<1	200	0
PE184234.003	LB231677.019	Barium	µg/L	0.2	93	92	15	1
		Copper	µg/L	0.5	<0.5	<0.5	200	0
		Iron	µg/L	5	280	270	17	1
		Lead	µg/L	0.5	<0.5	<0.5	200	0
		Vanadium	µg/L	0.5	<0.5	<0.5	200	0
		Zinc	µg/L	1	<1	<1	181	0
PE184305.004	LB231731.008	Arsenic	µg/L	0.5	0.21803066140.2180007632		200	0
		Iron	µg/L	5	0.46347897220.4590005587		200	0
		Manganese	µg/L	1	12.58196927142.7352013257		23	1
PE184305.005	LB231731.010	Arsenic	µg/L	0.5	0.35056413990.3522113034		157	0
		Iron	µg/L	5	5.16608913035.1907781156		112	0
		Manganese	µg/L	1	23.42342470492.4568004065		19	4

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184202.007	LB231675.010	Total Aluminium	µg/L	5	2100	2100	15	2
		Total Iron	µg/L	5	1300	1300	15	2
PE184328.011	LB231729.014	Total Aluminium	µg/L	5	2.82037118642.9525945085		188	0
		Total Iron	µg/L	5	3.61036972883.4700863441		156	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.

Acidity and Free CO2

Method: ME-(AU)-[ENV]AN140

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231669.002	Acidity to pH 8.3	mg CaCO3/L	5	270	250	85 - 115	108

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231725.002	Total Alkalinity as CaCO3	mg/L	5	220	229	85 - 115	96

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231651.002	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	4.2	4	85 - 115	105

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231815.002	Chloride, Cl	mg/L	1	19	20	85 - 115	96
LB231815.026	Chloride, Cl	mg/L	1	19	20	85 - 115	96
LB231815.050	Chloride, Cl	mg/L	1	19	20	85 - 115	96

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231818.002	Conductivity @ 25 C	µS/cm	2	300	303	90 - 110	100
LB231818.003	Conductivity @ 25 C	µS/cm	2	1000	1015	90 - 110	98

Dissolved Oxygen by Membrane Electrode

Method: ME-(AU)-[ENV]AN176

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231671.002	Dissolved Oxygen**	mg/L	0.5	10.1	8.5	88 - 118	119†

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231668.003	Filterable Reactive Phosphorus as P	mg/L	0.002	0.047	0.05	80 - 120	94

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231696.002	Mercury	mg/L	0.00005	0.0029	0.0025	80 - 120	116
LB231696.027	Mercury	mg/L	0.00005	0.0029	0.0025	80 - 120	115
LB231829.002	Mercury	mg/L	0.00005	0.0029	0.0025	80 - 120	116
LB231829.027	Mercury	mg/L	0.00005	0.0028	0.0025	80 - 120	110

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]AN258

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231651.002	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.7	4	85 - 115	92

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231818.002	pH**	pH Units	-	7.4	7.4	98 - 102	100

Redox Potential (Eh) in water

Method: ME-(AU)-[ENV]AN240

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231665.001	Eh of Sample Relative to Standard H+ Electrode***	mV	-500	448	428	90 - 110	105



LABORATORY CONTROL SAMPLES

PE184202 R0

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.

Sulfate in water

Method: ME-(AU)-[ENV]AN275

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231815.002	Sulfate, SO4	mg/L	1	9	10	80 - 120	92
LB231815.027	Sulfate, SO4	mg/L	1	11	10	80 - 120	107
LB231815.052	Sulfate, SO4	mg/L	1	11	10	80 - 120	107

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231756.002	Total Kjeldahl Nitrogen	mg/L	0.05	0.94	1	80 - 120	94

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231689.002	Total Dissolved Solids Dried at 175-185°C	mg/L	10	300	291	85 - 115	104

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231756.002	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.53	0.5	80 - 120	106

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231677.002	Aluminium	µg/L	5	11	10	80 - 120	110
	Arsenic	µg/L	0.5	10	10	80 - 120	102
	Barium	µg/L	0.2	11	10	80 - 120	114
	Beryllium	µg/L	0.1	9.0	10	80 - 120	90
	Boron	µg/L	5	9	10	80 - 120	94
	Cadmium	µg/L	0.05	9.9	10	80 - 120	99
	Chromium	µg/L	0.5	10	10	80 - 120	103
	Cobalt	µg/L	0.5	9.6	10	80 - 120	96
	Copper	µg/L	0.5	9.6	10	80 - 120	96
	Iron	µg/L	5	10	10	80 - 120	103
	Lead	µg/L	0.5	10	10	80 - 120	101
	Manganese	µg/L	1	11	10	80 - 120	110
	Nickel	µg/L	1	10	10	80 - 120	104
	Selenium	µg/L	1	10	10	80 - 120	104
LB231731.002	Vanadium	µg/L	0.5	10	10	80 - 120	101
	Zinc	µg/L	1	11	10	80 - 120	107
	Aluminium	µg/L	5	11	10	80 - 120	113
	Arsenic	µg/L	0.5	10	10	80 - 120	100
	Barium	µg/L	0.2	11	10	80 - 120	115
	Beryllium	µg/L	0.1	9.3	10	80 - 120	93
	Boron	µg/L	5	9	10	80 - 120	88
	Cadmium	µg/L	0.05	9.4	10	80 - 120	94
	Chromium	µg/L	0.5	11	10	80 - 120	106
	Cobalt	µg/L	0.5	9.0	10	80 - 120	90
	Copper	µg/L	0.5	9.3	10	80 - 120	93
	Iron	µg/L	5	10	10	80 - 120	100
	Lead	µg/L	0.5	10	10	80 - 120	104
	Manganese	µg/L	1	10	10	80 - 120	104
	Nickel	µg/L	1	10	10	80 - 120	97
	Selenium	µg/L	1	10	10	80 - 120	104
	Vanadium	µg/L	0.5	10	10	80 - 120	105
	Zinc	µg/L	1	10	10	80 - 120	96

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231675.002	Total Aluminium	µg/L	5	11	10	80 - 120	105
LB231729.002	Total Aluminium	µg/L	5	10	10	80 - 120	98

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.

Ammonia Nitrogen by FIA

Method: ME-(AU)-[ENV]AN261/AN262

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184231.005	LB231651.015	Ammonia Nitrogen, NH ₃ as N	mg/L	0.05	1.1	0.35	0.8	93

Chloride by Discrete Analyser in Water

Method: ME-(AU)-[ENV]AN274

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.001	LB231815.004	Chloride, Cl	mg/L	1	140	31	100	104

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184202.002	LB231668.002	Filterable Reactive Phosphorus as P	mg/L	0.002	0.053	<0.002	0.05	104

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE182363.001	LB231829.004	Mercury	mg/L	0.00005	0.0022	0.033	0.0025	108
PE184125.001	LB231696.004	Mercury	mg/L	0.00005	0.0023	<0.00005	0.0025	116
PE184202.008	LB231696.031	Mercury	mg/L	0.00005	0.0024	<0.00005	0.0025	120
PE184354.009	LB231829.031	Mercury	mg/L	0.00005	0.0022	0.04	0.0025	106

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA

Method: ME-(AU)-[ENV]AN258

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184231.005	LB231651.015	Nitrite Nitrogen, NO ₂ as N	mg/L	0.05	3.9	0.0484	4	96
		Nitrate Nitrogen, NO ₃ as N	mg/L	0.05	0.55	0.10	-	-

Sulfate in water

Method: ME-(AU)-[ENV]AN275

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184125.001	LB231815.004	Sulfate, SO ₄	mg/L	1	120	33	100	91
PE184222.002	LB231815.034	Sulfate, SO ₄	mg/L	1	280	56.826	100	220 †

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE183473B.001	LB231689.004	Total Dissolved Solids Dried at 175-185°C	mg/L	10	1600	55.4996477810	1000	100

Trace Metals (Dissolved) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184248.001	LB231677.004	Aluminium	µg/L	5	14	<5	10	106
		Iron	µg/L	5	11	<5	10	96
		Manganese	µg/L	1	27	17	10	101
PE184305.001	LB231731.004	Arsenic	µg/L	0.5	9.7	0.13866447499	10	96
		Iron	µg/L	5	29	19.71905312777	10	94
		Manganese	µg/L	1	18	7.89147088211	10	96

Trace Metals (Total) in Water by ICPMS TQe

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184202.004	LB231729.004	Total Aluminium	µg/L	5	3100	2300	-	-
		Total Iron	µg/L	5	2200	2100	-	-
PE184202.005	LB231675.007	Total Aluminium	µg/L	5	2700	2000	-	-
		Total Iron	µg/L	5	1500	1300	-	-



MATRIX SPIKE DUPLICATES

PE184202 R0

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.

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-ENVJAN113

QC Sample	Sample Number	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE183473B.00	LB231689.005	Total Dissolved Solids Dried at 175-185°C	mg/L	10	1600	1500	16	1



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 Low surrogate recovery due to the sample emulsifying during extraction.
- † Refer to relevant report comments for further information.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.

[illegible]



REGISTRATION DETAILS Bottle Map

Doc. No. PF-AU-ENVLTS-PAP-QU101
Rev. No. 8.0 DRAFT
Date 08/03/2022

Page

1 of 1

Sample Numbers	1L	500mL	250mL	125mL	125mL UF/F	1L	500mL	100mL	40mL	40mL	250mL	500mL	500mL	250mL	125mL	1L	250mL	125mL	Ziplock Bag/ Other
	Plastic	Plastic	Plastic	Plastic	Plastic	Amber	Amber	Amber	Glass Vial	Glass Vial	Plastic	Plastic	Amber	Plastic	Plastic	Plastic	Glass Jar	Glass Jar	
	Green	Green	Green	Green	Red	Green	Green	Green	VOC	HAA	Purple	Blue	Orange	Orange	Brown	Yellow			PFAS 60ml
1	1				11			1	11					1					1
2	1			11	11			1						1					1
3	1				11			1						1					1
7					11			11						1					
5	1				11			1	11					1					1
6	1				11			1	11					1					1
7	1				11			1	11					1					1
8	1				11			1	11					1					1
9									11										

Job Number: PE 184202

of Eskies: 2

Temp (°C):
☐ IB:
☐ ICE:
☒ None: 18.6 - 20.2

Tray Numbers:
W94 SHF.
MF93 HA45

Registration comments by local team (For GBS):
7/07/2025
4:15

Pre-registration/ unpacking comments for local team:
Mark DO on bottles (1L green)
1x 500mL + 2x VOC, ~~to~~ PFAS to NH.
Sample # 3, 1L Green plastic and 250mL orange plastic Bottles were Half empty.
• VOC NOT RECEIVED.
☐ Green dot on metal bottle Sample # 4. 1L not received.

✓ Sample # 1, 1L on bottle T25 MW01

Is this a Boomerang Esky?	Y or N	Boomerang Due Date:	Pre-registered By: <i>kw</i>	Unpacked By: <i>PR</i>
---------------------------	--------	---------------------	------------------------------	------------------------

CLIENT DETAILS

Contact SGS Environmental Perth
 Client SGS I&E EHS PERTH AIRPORT
 Address 28 Reid Road
 Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
 Facsimile +61 (0)8 9373 3556
 Email au.environmental.subcon@sgs.com

Project **P25.045**
 Order Number **PE184202**
 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 **ME373705 R0**
 Date Received 10 Jul 2025
 Date Reported 15 Jul 2025

COMMENTS

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

<8270>Majority of surrogate recoveries are within acceptance criteria.

SIGNATORIES



Andrew WRIGHT
 LC/VOC Team Leader



Nicholas HORA
 Senior Laboratory Technician



Susan WAN
 Senior Chemist



ANALYTICAL REPORT

ME373705 R0

Parameter	Units	LOR	Sample Number	ME373705.001	ME373705.002	ME373705.003	ME373705.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	PE184202.001	PE184202.002	PE184202.003	PE184202.004

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025

Benzene	mg/L	0.001	<0.001	-	-	-
Bromobenzene	mg/L	0.001	<0.001	-	-	-
Bromochloromethane	mg/L	0.001	<0.001	-	-	-
Bromodichloromethane	mg/L	0.001	<0.001	-	-	-
Bromomethane	mg/L	0.001	<0.001	-	-	-
n-Butylbenzene	mg/L	0.001	<0.001	-	-	-
s-Butylbenzene	mg/L	0.001	<0.001	-	-	-
t-Butylbenzene	mg/L	0.001	<0.001	-	-	-
Carbon tetrachloride	mg/L	0.001	<0.001	-	-	-
Chlorobenzene	mg/L	0.001	<0.001	-	-	-
Chloroethane	mg/L	0.001	<0.001	-	-	-
Chloromethane	mg/L	0.001	<0.001	-	-	-
2-Chlorotoluene	mg/L	0.001	<0.001	-	-	-
4-Chlorotoluene	mg/L	0.001	<0.001	-	-	-
Dibromochloromethane	mg/L	0.001	<0.001	-	-	-
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	-	-	-
1,2-Dibromoethane	mg/L	0.001	<0.001	-	-	-
Dibromomethane	mg/L	0.001	<0.001	-	-	-
1,2-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,3-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,4-Dichlorobenzene	mg/L	0.001	<0.001	-	-	-
Dichlorodifluoromethane	mg/L	0.001	<0.001	-	-	-
1,2-Dichloroethane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloroethane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloroethene	mg/L	0.001	<0.001	-	-	-
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
1,2-Dichloroethene	mg/L	0.001	<0.001	-	-	-
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	-	-	-
1,2-Dichloropropane	mg/L	0.001	<0.001	-	-	-
1,3-Dichloropropane	mg/L	0.001	<0.001	-	-	-
2,2-Dichloropropane	mg/L	0.001	<0.001	-	-	-
1,1-Dichloropropene	mg/L	0.001	<0.001	-	-	-
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	-	-	-
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	-	-	-
Ethylbenzene	mg/L	0.001	<0.001	-	-	-
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	-	-	-
Isopropylbenzene	mg/L	0.001	<0.001	-	-	-
p-Isopropyltoluene	mg/L	0.001	<0.001	-	-	-
Naphthalene (VOC)	mg/L	0.001	<0.001	-	-	-
Propylbenzene	mg/L	0.001	<0.001	-	-	-
Styrene	mg/L	0.001	<0.001	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	-	-	-
Tetrachloroethene	mg/L	0.001	<0.001	-	-	-
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	-	-	-
Toluene	mg/L	0.001	<0.001	-	-	-
Tribromomethane	mg/L	0.001	<0.001	-	-	-
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,1,1-Trichloroethane	mg/L	0.001	<0.001	-	-	-
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	-	-	-
1,1,2-Trichloroethane	mg/L	0.001	<0.001	-	-	-
Trichloroethene	mg/L	0.001	<0.001	-	-	-
Trichlorofluoromethane	mg/L	0.001	<0.001	-	-	-
Trichloromethane	mg/L	0.001	<0.001	-	-	-
1,2,3-Trichloropropane	mg/L	0.001	<0.001	-	-	-
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	-	-	-
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	-	-	-
Vinyl Chloride	mg/L	0.001	<0.001	-	-	-



ANALYTICAL REPORT

ME373705 R0

Parameter	Units	LOR	Sample Number	ME373705.001	ME373705.002	ME373705.003	ME373705.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	PE184202.001	PE184202.002	PE184202.003	PE184202.004

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	-	-	-
o-Xylene	mg/L	0.001	<0.001	-	-	-
Xylenes	mg/L	0.001	<0.001	-	-	-
Total Trichlorobenzenes	mg/L	0.001	<0.001	-	-	-
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	-	-	-
Total BTEX	mg/L	0.001	<0.001	-	-	-
Toluene-d8 (surrogate)	%	-	105	-	-	-
1,2-Dichloroethane_D4 (Surrogate)	%	-	94	-	-	-
Dibromofluoromethane (Surrogate)	%	-	98	-	-	-
p_Bromofluorobenzene (Surrogate)	%	-	100	-	-	-

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	<0.02	-	-	-
Acrylonitrile*	mg/L	0.05	<0.05	-	-	-
Carbon disulphide*	mg/L	0.005	<0.005	-	-	-
1-Chloro-2-propene*	mg/L	0.001	<0.001	-	-	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	-	-	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	-	-	-
2-Hexanone*	mg/L	0.001	<0.001	-	-	-
Iodomethane*	mg/L	0.005	<0.005	-	-	-
MEK (2-butanone)	mg/L	0.005	<0.005	-	-	-
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	-	-	-
Methyl tert-butyl ether*	mg/L	0.001	<0.001	-	-	-
Vinyl Acetate*	mg/L	0.01	<0.01	-	-	-

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 14/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Benzo (a) pyrene	µg/L	1	<1	<1	<1	<1
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	<1
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	<1
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	<2
Chrysene	µg/L	1	<1	<1	<1	<1
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	<1
Naphthalene	µg/L	1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
d14-p-terphenyl (Surrogate)	%	0.001	109	104	113	111
d5-nitrobenzene (Surrogate)	%	0.001	115	118	118	115
d6-phenol (Surrogate)	%	0.001	42	37	32	48
2-fluorobiphenyl (Surrogate)	%	0.001	88	69	78	65
2,4,6-tribromophenol (Surrogate)	%	0.001	129	123	117	153
2-fluorophenol (Surrogate)	%	0.001	59	56	46	66

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0018	<0.0005	0.0075	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0011	<0.0005	0.0008	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0032	<0.0002	0.0079	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	-



ANALYTICAL REPORT

ME373705 R0

Parameter	Units	LOR	Sample Number	ME373705.001	ME373705.002	ME373705.003	ME373705.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	PE184202.001	PE184202.002	PE184202.003	PE184202.004

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 15/7/2025 (continued)

Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	-
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	-
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	0.005	<0.001	0.002	-
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	0.001	<0.001	<0.001	-
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.012	<0.0002	0.0024	-
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	-
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.0023	<0.0002	0.0029	-
Sum of PFHxS and PFOS	µg/L	0.0002	0.014	<0.0002	0.0053	-
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	0.0073	0.0016	0.0031	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	-
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	-
Total PFAS (n=30)	µg/L	0.006	0.034	<0.0060	0.026	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	101	101	98	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	106	104	104	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	90	89	92	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	95	94	99	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	97	98	102	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	92	97	93	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	108	96	96	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	97	91	89	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	99	112	108	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	29	53	37	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	50	67	57	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	78	85	83	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	100	98	104	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	107	98	116	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	65	59	77	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	87	54	106	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	76	49	109	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	101	115	123	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	83	72	55	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	12	67	20	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	63	107	98	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	56	95	86	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	62	69	83	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	74	65	88	-

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 14/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands



ANALYTICAL REPORT

ME373705 R0

			Sample Number	ME373705.001	ME373705.002	ME373705.003	ME373705.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	PE184202.001	PE184202.002	PE184202.003	PE184202.004
Parameter	Units	LOR					

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 14/7/2025 (continued)

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01



ANALYTICAL REPORT

ME373705 R0

Parameter	Units	LOR	Sample Number	ME373705.005	ME373705.006	ME373705.007	ME373705.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	PE184202.005	PE184202.006	PE184202.007	PE184202.008

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025

Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Bromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Bromomethane	mg/L	0.001	<0.001	<0.001	<0.001	-
n-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
s-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
t-Butylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	<0.001	-
Chlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Chloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Chloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	-
4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	<0.001	-
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Dibromomethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	<0.01	-
1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	-
cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	-
trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	<0.001	-
Ethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	<0.001	-
Isopropylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	<0.001	-
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Styrene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Tetrachloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Toluene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Trichloroethene	mg/L	0.001	<0.001	<0.001	<0.001	-
Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
Trichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	<0.001	-
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	<0.001	-
Vinyl Chloride	mg/L	0.001	<0.001	<0.001	<0.001	-



ANALYTICAL REPORT

ME373705 R0

Parameter	Units	LOR	Sample Number	ME373705.005	ME373705.006	ME373705.007	ME373705.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	PE184202.005	PE184202.006	PE184202.007	PE184202.008

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	<0.001	-
Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	<0.002	-
Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Toluene-d8 (surrogate)	%	-	105	103	105	104
1,2-Dichloroethane_D4 (Surrogate)	%	-	95	95	97	97
Dibromofluoromethane (Surrogate)	%	-	99	100	101	101
p_Bromofluorobenzene (Surrogate)	%	-	99	98	97	97

USEPA 8260B Additional VOCs in water Method: USEPA 8260B Tested: 11/7/2025

Acetone*	mg/L	0.02	<0.02	<0.02	<0.02	-
Acrylonitrile*	mg/L	0.05	<0.05	<0.05	<0.05	-
Carbon disulphide*	mg/L	0.005	<0.005	<0.005	<0.005	-
1-Chloro-2-propene*	mg/L	0.001	<0.001	<0.001	<0.001	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	<0.005	<0.005	<0.005	-
2-Hexanone*	mg/L	0.001	<0.001	<0.001	<0.001	-
Iodomethane*	mg/L	0.005	<0.005	<0.005	<0.005	-
MEK (2-butanone)	mg/L	0.005	<0.005	<0.005	<0.005	-
Methyl Isobutyl Ketone*	mg/L	0.005	<0.005	<0.005	<0.005	-
Methyl tert-butyl ether*	mg/L	0.001	<0.001	<0.001	<0.001	-
Vinyl Acetate*	mg/L	0.01	<0.01	<0.01	<0.01	-

SVOC Compounds in Waters by GC-QQQ Method: MA8270 Tested: 14/7/2025

Acenaphthene	µg/L	1	<1	<1	<1	-
Acenaphthylene	µg/L	1	<1	<1	<1	-
Anthracene	µg/L	1	<1	<1	<1	-
Benzo(a)anthracene	µg/L	1	<1	<1	<1	-
Benzo (a) pyrene	µg/L	1	<1	<1	<1	-
Benzo (b) fluoranthene	µg/L	1	<1	<1	<1	-
Benzo (ghi) perylene	µg/L	1	<1	<1	<1	-
Benzo (k) fluoranthene	µg/L	1	<1	<1	<1	-
Benzo (b+j+k) fluoranthene	µg/L	2	<2	<2	<2	-
Chrysene	µg/L	1	<1	<1	<1	-
Dibenz (ah) anthracene	µg/L	1	<1	<1	<1	-
Fluoranthene	µg/L	1	<1	<1	<1	-
Fluorene	µg/L	1	<1	<1	<1	-
Indeno (1,2,3-cd) pyrene	µg/L	1	<1	<1	<1	-
Naphthalene	µg/L	1	<1	<1	<1	-
Phenanthrene	µg/L	1	<1	<1	<1	-
Pyrene	µg/L	1	<1	<1	<1	-
d14-p-terphenyl (Surrogate)	%	0.001	108	111	114	-
d5-nitrobenzene (Surrogate)	%	0.001	116	119	119	-
d6-phenol (Surrogate)	%	0.001	47	41	53	-
2-fluorobiphenyl (Surrogate)	%	0.001	68	68	74	-
2,4,6-tribromophenol (Surrogate)	%	0.001	148	142	158	-
2-fluorophenol (Surrogate)	%	0.001	64	62	118	-

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.010	0.029	0.010	<0.0005
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	0.0097	0.0043	0.0089	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0033	0.0035	0.0036	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.0027	<0.0005	0.0028	<0.0005
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0023	0.0017	0.0024	<0.0002
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

ME373705 R0

Parameter	Units	LOR	Sample Number	ME373705.005	ME373705.006	ME373705.007	ME373705.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	PE184202.005	PE184202.006	PE184202.007	PE184202.008

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 11/7/2025 (continued)

Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001	0.002	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.0003	<0.0002	0.0005	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002	0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	0.0003	0.0002	0.0005	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	0.0025	0.0008	0.0008	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	0.031	0.042	0.029	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	100	102	102	97
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	117	105	118	93
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	95	85	94	93
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	103	91	105	96
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	98	92	100	99
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	89	97	98	105
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	85	120	110	86
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	96	114	62	100
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	98	137	56	113
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	41	104	19	66
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	71	65	35	118
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	96	78	82	99
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	116	99	97	113
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	94	97	91	99
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	65	56	61	104
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	86	67	68	105
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	85	67	62	109
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	114	98	94	141
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	72	121	17	143
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	52	101	11	117
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	89	100	57	135
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	86	105	38	125
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	65	78	44	102
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	73	80	29	125

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 14/7/2025

TRH C10-C14	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

TRH F Bands



ANALYTICAL REPORT

ME373705 R0

			Sample Number	ME373705.005	ME373705.006	ME373705.007	ME373705.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	07 Jul 2025	07 Jul 2025	07 Jul 2025	07 Jul 2025
			Sample Name	PE184202.005	PE184202.006	PE184202.007	PE184202.008
Parameter	Units	LOR					

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 14/7/2025 (continued)

TRH >C10-C16	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01



ANALYTICAL REPORT

ME373705 R0

		Sample Number	ME373705.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	PE184202.009
Parameter	Units	LOR	

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025

Benzene	mg/L	0.001	-
Bromobenzene	mg/L	0.001	<0.001
Bromochloromethane	mg/L	0.001	<0.001
Bromodichloromethane	mg/L	0.001	<0.001
Bromomethane	mg/L	0.001	<0.001
n-Butylbenzene	mg/L	0.001	<0.001
s-Butylbenzene	mg/L	0.001	<0.001
t-Butylbenzene	mg/L	0.001	<0.001
Carbon tetrachloride	mg/L	0.001	<0.001
Chlorobenzene	mg/L	0.001	<0.001
Chloroethane	mg/L	0.001	<0.001
Chloromethane	mg/L	0.001	<0.001
2-Chlorotoluene	mg/L	0.001	<0.001
4-Chlorotoluene	mg/L	0.001	<0.001
Dibromochloromethane	mg/L	0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001
1,2-Dibromoethane	mg/L	0.001	<0.001
Dibromomethane	mg/L	0.001	<0.001
1,2-Dichlorobenzene	mg/L	0.001	<0.001
1,3-Dichlorobenzene	mg/L	0.001	<0.001
1,4-Dichlorobenzene	mg/L	0.001	<0.001
Dichlorodifluoromethane	mg/L	0.001	<0.001
1,2-Dichloroethane	mg/L	0.001	<0.001
1,1-Dichloroethane	mg/L	0.001	<0.001
1,1-Dichloroethene	mg/L	0.001	<0.001
cis-1,2-Dichloroethene	mg/L	0.001	<0.001
trans-1,2-Dichloroethene	mg/L	0.001	<0.001
1,2-Dichloroethene	mg/L	0.001	<0.001
Dichloromethane (methylene chloride)	mg/L	0.01	<0.01
1,2-Dichloropropane	mg/L	0.001	<0.001
1,3-Dichloropropane	mg/L	0.001	<0.001
2,2-Dichloropropane	mg/L	0.001	<0.001
1,1-Dichloropropene	mg/L	0.001	<0.001
cis-1,3-Dichloropropene	mg/L	0.001	<0.001
trans-1,3-Dichloropropene	mg/L	0.001	<0.001
Ethylbenzene	mg/L	0.001	-
Hexachloro-1,3-butadiene	mg/L	0.001	<0.001
Isopropylbenzene	mg/L	0.001	<0.001
p-Isopropyltoluene	mg/L	0.001	<0.001
Naphthalene (VOC)	mg/L	0.001	-
Propylbenzene	mg/L	0.001	<0.001
Styrene	mg/L	0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001
Tetrachloroethene	mg/L	0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001
Toluene	mg/L	0.001	-
Tribromomethane	mg/L	0.001	<0.001
1,2,3-Trichlorobenzene	mg/L	0.001	<0.001
1,2,4-Trichlorobenzene	mg/L	0.001	<0.001
1,1,1-Trichloroethane	mg/L	0.001	<0.001
1,3,5-Trichlorobenzene	mg/L	0.001	<0.001
1,1,2-Trichloroethane	mg/L	0.001	<0.001
Trichloroethene	mg/L	0.001	<0.001
Trichlorofluoromethane	mg/L	0.001	<0.001
Trichloromethane	mg/L	0.001	<0.001
1,2,3-Trichloropropane	mg/L	0.001	<0.001
1,2,4-Trimethylbenzene	mg/L	0.001	<0.001
1,3,5-Trimethylbenzene	mg/L	0.001	<0.001
Vinyl Chloride	mg/L	0.001	<0.001



ANALYTICAL REPORT

ME373705 R0

		Sample Number	ME373705.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	PE184202.009
Parameter	Units	LOR	

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B Tested: 11/7/2025 (continued)

m&p-Xylenes	mg/L	0.001	-
o-Xylene	mg/L	0.001	-
Xylenes	mg/L	0.001	-
Total Trichlorobenzenes	mg/L	0.001	<0.001
Total trihalomethanes (THMs)	mg/L	0.002	<0.002
Total BTEX	mg/L	0.001	-
Toluene-d8 (surrogate)	%	-	-
1,2-Dichloroethane_D4 (Surrogate)	%	-	-
Dibromofluoromethane (Surrogate)	%	-	-
p_Bromofluorobenzene (Surrogate)	%	-	-



ANALYTICAL REPORT

ME373705 R0

		Sample Number	ME373705.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	PE184202.009
Parameter	Units	LOR	

USEPA 8260B Additional VOCs in water **Method: USEPA 8260B** **Tested: 14/7/2025**

Acetone*	mg/L	0.02	-
Acrylonitrile*	mg/L	0.05	-
Carbon disulphide*	mg/L	0.005	-
1-Chloro-2-propene*	mg/L	0.001	-
cis-1,4-Dichloro-2-butene*	mg/L	0.005	-
trans-1,4-Dichloro-2-butene*	mg/L	0.005	-
2-Hexanone*	mg/L	0.001	-
Iodomethane*	mg/L	0.005	-
MEK (2-butanone)	mg/L	0.005	-
Methyl Isobutyl Ketone*	mg/L	0.005	-
Methyl tert-butyl ether*	mg/L	0.001	-
Vinyl Acetate*	mg/L	0.01	-

SVOC Compounds in Waters by GC-QQQ **Method: MA8270** **Tested: 15/7/2025**

Acenaphthene	µg/L	1	-
Acenaphthylene	µg/L	1	-
Anthracene	µg/L	1	-
Benzo(a)anthracene	µg/L	1	-
Benzo (a) pyrene	µg/L	1	-
Benzo (b) fluoranthene	µg/L	1	-
Benzo (ghi) perylene	µg/L	1	-
Benzo (k) fluoranthene	µg/L	1	-
Benzo (b+j+k) fluoranthene	µg/L	2	-
Chrysene	µg/L	1	-
Dibenz (ah) anthracene	µg/L	1	-
Fluoranthene	µg/L	1	-
Fluorene	µg/L	1	-
Indeno (1,2,3-cd) pyrene	µg/L	1	-
Naphthalene	µg/L	1	-
Phenanthrene	µg/L	1	-
Pyrene	µg/L	1	-
d14-p-terphenyl (Surrogate)	%	0.001	-
d5-nitrobenzene (Surrogate)	%	0.001	-
d6-phenol (Surrogate)	%	0.001	-
2-fluorobiphenyl (Surrogate)	%	0.001	-
2,4,6-tribromophenol (Surrogate)	%	0.001	-
2-fluorophenol (Surrogate)	%	0.001	-



ANALYTICAL REPORT

ME373705 R0

		Sample Number	ME373705.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	PE184202.009
Parameter	Units	LOR	

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 15/7/2025

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-
Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001	-
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	-
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	-
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	-
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	-
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	-
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	-
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	-
Sum of PFHxS and PFOS	µg/L	0.0002	-
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	-
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	-
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	-
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	-
Total PFAS (n=30)	µg/L	0.006	-
(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	%	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-



ANALYTICAL REPORT

ME373705 R0

		Sample Number	ME373705.009
		Sample Matrix	Water
		Sample Date	07 Jul 2025
		Sample Name	PE184202.009
Parameter	Units	LOR	

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30 Tested: 14/7/2025

TRH C10-C14	mg/L	0.01	<0.01
TRH C15-C28	mg/L	0.05	<0.05
TRH C29-C36	mg/L	0.05	<0.05
Total TRH C10-C36	mg/L	0.05	<0.05
Total TRH C6-C36	mg/L	0.05	<0.05
TRH >C10-C40 Total (F)	mg/L	0.05	<0.05

TRH F Bands

TRH >C10-C16	mg/L	0.01	<0.01
TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01
TRH >C16-C34 (F3)	mg/L	0.05	<0.05
TRH >C34-C40 (F4)	mg/L	0.05	<0.05
Total TRH C6-C40 (F)	mg/L	0.05	<0.05

VPH in Water MA-30 Method: MA30-VPH Tested: 11/7/2025

C6-C9 (P&T)	mg/L	0.01	<0.01
C6-C10 (P&T)	mg/L	0.01	<0.01
C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01



QC SUMMARY

ME373705 R0

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB091883	µg/L	0.0005	<0.0005	18%	NA
Perfluoropentanoic acid (PFPeA)	LB091883	µg/L	0.0005	<0.0005	0%	NA
Perfluorohexanoic acid (PFHxA)	LB091883	µg/L	0.0005	<0.0005	35%	NA
Perfluoroheptanoic acid (PFHpA)	LB091883	µg/L	0.0005	<0.0005	0%	69%
Perfluorooctanoic Acid (PFOA)	LB091883	µg/L	0.0002	<0.0002	4%	81%
Perfluorononanoic acid (PFNA)	LB091883	µg/L	0.001	<0.001	0%	71%
Perfluorodecanoic acid (PFDA)	LB091883	µg/L	0.001	<0.001	0%	73%
Perfluoroundecanoic acid (PFUnA)	LB091883	µg/L	0.001	<0.001	0%	66%
Perfluorododecanoic acid (PFDoA)	LB091883	µg/L	0.001	<0.001	0%	70%
Perfluorotridecanoic acid (PFTriDA)	LB091883	µg/L	0.001	<0.001	0%	76%
Perfluorotetradecanoic acid (PFTeDA)	LB091883	µg/L	0.001	<0.001	0%	82%
Perfluorohexadecanoic acid (PFHxDA)	LB091883	µg/L	0.002	<0.002	0%	NA
Perfluorobutane sulfonate (PFBS)	LB091883	µg/L	0.001	<0.001	4%	NA
Perfluoropentane sulfonate (PFPeS)	LB091883	µg/L	0.001	<0.001	23%	NA
Perfluorohexane sulfonate (PFHxS)	LB091883	µg/L	0.0002	<0.0002	20%	NA
Perfluoroheptane sulfonate (PFHpS)	LB091883	µg/L	0.0002	<0.0002	0%	NA
Perfluorooctane sulfonate (PFOS)	LB091883	µg/L	0.0002	<0.0002	30%	78%
Sum of PFHxS and PFOS	LB091883	µg/L	0.0002	<0.0002	22%	NA
Perfluorononane sulfonate (PFNS)	LB091883	µg/L	0.0005	<0.0005	0%	NA
Perfluorodecane sulfonate (PFDS)	LB091883	µg/L	0.0005	<0.0005	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB091883	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB091883	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB091883	µg/L	0.0005	<0.0005	14%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB091883	µg/L	0.0005	<0.0005	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB091883	µg/L	0.002	<0.002	0%	57%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB091883	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB091883	µg/L	0.0025	<0.0025	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB091883	µg/L	0.0025	<0.0025	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB091883	µg/L	0.0025	<0.0025	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N_MeFOSAA)	LB091883	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB091883	µg/L	0.0025	<0.0025	0%	NA
Total PFAS (n=30)	LB091883	µg/L	0.006	<0.0060		
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	98%	0%	102%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	93%	2%	98%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	100%	1%	92%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	101%	0%	90%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	98%	2%	94%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	97%	11%	93%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	105%	16%	105%
(13C7-PFUnA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	88%	10%	101%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	100%	17%	121%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	58%	120%	73%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	100%	55%	35%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	118%	6%	95%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	124%	17%	107%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	87%	3%	97%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	120%	9%	94%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	127%	3%	92%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	114%	8%	103%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	146%	14%	142%
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	115%	28%	83%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	100%	160%	96%
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	141%	58%	123%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	134%	67%	120%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	110%	19%	92%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB091883	%	-	103%	20%	85%

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.

SVOC Compounds in Waters by GC-QQQ Method: MA8270

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Acenaphthene	LB091920	µg/L	1	<1	69%
Acenaphthylene	LB091920	µg/L	1	<1	NA
Anthracene	LB091920	µg/L	1	<1	NA
Benzo(a)anthracene	LB091920	µg/L	1	<1	NA
Benzo (a) pyrene	LB091920	µg/L	1	<1	NA
Benzo (b) fluoranthene	LB091920	µg/L	1	<1	NA
Benzo (ghi) perylene	LB091920	µg/L	1	<1	NA
Benzo (k) fluoranthene	LB091920	µg/L	1	<1	NA
Benzo (b+j+k) fluoranthene	LB091920	µg/L	2	<2	NA
Chrysene	LB091920	µg/L	1	<1	NA
Dibenz (ah) anthracene	LB091920	µg/L	1	<1	NA
Fluoranthene	LB091920	µg/L	1	<1	NA
Fluorene	LB091920	µg/L	1	<1	NA
Indeno (1,2,3-cd) pyrene	LB091920	µg/L	1	<1	NA
Naphthalene	LB091920	µg/L	1	<1	NA
Phenanthrene	LB091920	µg/L	1	<1	NA
Pyrene	LB091920	µg/L	1	<1	73%
d14-p-terphenyl (Surrogate)	LB091920	%	0.001	125%	118%
d5-nitrobenzene (Surrogate)	LB091920	%	0.001	144%	120%
d6-phenol (Surrogate)	LB091920	%	0.001	48%	43%
2-fluorobiphenyl (Surrogate)	LB091920	%	0.001	95%	101%
2,4,6-tribromophenol (Surrogate)	LB091920	%	0.001	97%	99%
2-fluorophenol (Surrogate)	LB091920	%	0.001	85%	70%

TRH in Water MA-30.WW.05 Old & New Fractions mg/L Method: MA30

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH C10-C14	LB091921	mg/L	0.01	<0.01	NA
TRH C15-C28	LB091921	mg/L	0.05	<0.05	NA
TRH C29-C36	LB091921	mg/L	0.05	<0.05	NA
Total TRH C10-C36	LB091921	mg/L	0.05	<0.05	94%
Total TRH C6-C36	LB091921	mg/L	0.05	<0.05	NA
TRH >C10-C40 Total (F)	LB091921	mg/L	0.05	<0.05	NA

TRH F Bands

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH >C10-C16	LB091921	mg/L	0.01	<0.01	NA
TRH >C10-C16 less Naphthalene (F2)	LB091921	mg/L	0.01	<0.01	NA
TRH >C16-C34 (F3)	LB091921	mg/L	0.05	<0.05	NA
TRH >C34-C40 (F4)	LB091921	mg/L	0.05	<0.05	NA
Total TRH C6-C40 (F)	LB091921	mg/L	0.05	<0.05	NA

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.

USEPA 8260B Additional VOCs in water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Acetone*	LB091888	mg/L	0.02	<0.02	NA
Acrylonitrile*	LB091888	mg/L	0.05	<0.05	NA
Carbon disulphide*	LB091888	mg/L	0.005	<0.005	NA
1-Chloro-2-propene*	LB091888	mg/L	0.001	<0.001	NA
cis-1,4-Dichloro-2-butene*	LB091888	mg/L	0.005	<0.005	NA
trans-1,4-Dichloro-2-butene*	LB091888	mg/L	0.005	<0.005	NA
2-Hexanone*	LB091888	mg/L	0.001	<0.001	NA
Iodomethane*	LB091888	mg/L	0.005	<0.005	NA
MEK (2-butanone)	LB091888	mg/L	0.005	<0.005	NA
Methyl Isobutyl Ketone*	LB091888	mg/L	0.005	<0.005	NA
Methyl tert-butyl ether*	LB091888	mg/L	0.001	<0.001	NA
Vinyl Acetate*	LB091888	mg/L	0.01	<0.01	NA

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Benzene	LB091892	mg/L	0.001	<0.001	0%	92%
Bromobenzene	LB091892	mg/L	0.001	<0.001	0%	NA
Bromochloromethane	LB091892	mg/L	0.001	<0.001	0%	NA
Bromodichloromethane	LB091892	mg/L	0.001	<0.001	0%	96%
Bromomethane	LB091892	mg/L	0.001	<0.001	0%	NA
n-Butylbenzene	LB091892	mg/L	0.001	<0.001	0%	NA
s-Butylbenzene	LB091892	mg/L	0.001	<0.001	0%	NA
t-Butylbenzene	LB091892	mg/L	0.001	<0.001	0%	NA
Carbon tetrachloride	LB091892	mg/L	0.001	<0.001	0%	93%
Chlorobenzene	LB091892	mg/L	0.001	<0.001	0%	107%
Chloroethane	LB091892	mg/L	0.001	<0.001	0%	NA
Chloromethane	LB091892	mg/L	0.001	<0.001	0%	NA
2-Chlorotoluene	LB091892	mg/L	0.001	<0.001	0%	NA
4-Chlorotoluene	LB091892	mg/L	0.001	<0.001	0%	NA
Dibromochloromethane	LB091892	mg/L	0.001	<0.001	0%	110%
1,2-Dibromo-3-chloropropane	LB091892	mg/L	0.001	<0.001	0%	NA
1,2-Dibromoethane	LB091892	mg/L	0.001	<0.001	0%	NA
Dibromomethane	LB091892	mg/L	0.001	<0.001	0%	NA
1,2-Dichlorobenzene	LB091892	mg/L	0.001	<0.001	0%	95%
1,3-Dichlorobenzene	LB091892	mg/L	0.001	<0.001	0%	NA
1,4-Dichlorobenzene	LB091892	mg/L	0.001	<0.001	0%	96%
Dichlorodifluoromethane	LB091892	mg/L	0.001	<0.001	0%	NA
1,2-Dichloroethane	LB091892	mg/L	0.001	<0.001	0%	94%
1,1-Dichloroethane	LB091892	mg/L	0.001	<0.001	0%	NA
1,1-Dichloroethene	LB091892	mg/L	0.001	<0.001	0%	83%
cis-1,2-Dichloroethene	LB091892	mg/L	0.001	<0.001	0%	89%
trans-1,2-Dichloroethene	LB091892	mg/L	0.001	<0.001	0%	84%
1,2-Dichloroethene	LB091892	mg/L	0.001	<0.001	0%	NA
Dichloromethane (methylene chloride)	LB091892	mg/L	0.01	<0.01	0%	91%
1,2-Dichloropropane	LB091892	mg/L	0.001	<0.001	0%	93%
1,3-Dichloropropane	LB091892	mg/L	0.001	<0.001	0%	NA
2,2-Dichloropropane	LB091892	mg/L	0.001	<0.001	0%	NA
1,1-Dichloropropene	LB091892	mg/L	0.001	<0.001	0%	NA
cis-1,3-Dichloropropene	LB091892	mg/L	0.001	<0.001	0%	NA
trans-1,3-Dichloropropene	LB091892	mg/L	0.001	<0.001	0%	NA
Ethylbenzene	LB091892	mg/L	0.001	<0.001	0%	98%
Hexachloro-1,3-butadiene	LB091892	mg/L	0.001	<0.001	0%	NA
Isopropylbenzene	LB091892	mg/L	0.001	<0.001	0%	NA
p-Isopropyltoluene	LB091892	mg/L	0.001	<0.001	0%	NA
Naphthalene (VOC)	LB091892	mg/L	0.001	<0.001	0%	NA

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.

USEPA8260B Volatile Organic Compounds in Water Method: USEPA 8260B (continued)

				MB	DUP %RPD	LCS %Recovery
Propylbenzene	LB091892	mg/L	0.001	<0.001	0%	NA
Styrene	LB091892	mg/L	0.001	<0.001	0%	91%
1,1,2,2-Tetrachloroethane	LB091892	mg/L	0.001	<0.001	0%	NA
Tetrachloroethene	LB091892	mg/L	0.001	<0.001	0%	105%
1,1,1,2-Tetrachloroethane	LB091892	mg/L	0.001	<0.001	0%	NA
Toluene	LB091892	mg/L	0.001	<0.001	0%	106%
Tribromomethane	LB091892	mg/L	0.001	<0.001	0%	112%
1,2,3-Trichlorobenzene	LB091892	mg/L	0.001	<0.001	0%	NA
1,2,4-Trichlorobenzene	LB091892	mg/L	0.001	<0.001	0%	81%
1,1,1-Trichloroethane	LB091892	mg/L	0.001	<0.001	0%	99%
1,3,5-Trichlorobenzene	LB091892	mg/L	0.001	<0.001		
1,1,2-Trichloroethane	LB091892	mg/L	0.001	<0.001	0%	102%
Trichloroethene	LB091892	mg/L	0.001	<0.001	0%	91%
Trichlorofluoromethane	LB091892	mg/L	0.001	<0.001	0%	NA
Trichloromethane	LB091892	mg/L	0.001	<0.001	0%	92%
1,2,3-Trichloropropane	LB091892	mg/L	0.001	<0.001	0%	NA
1,2,4-Trimethylbenzene	LB091892	mg/L	0.001	<0.001	0%	NA
1,3,5-Trimethylbenzene	LB091892	mg/L	0.001	<0.001	0%	NA
Vinyl Chloride	LB091892	mg/L	0.001	<0.001	0%	80%
m&p-Xylenes	LB091892	mg/L	0.001	<0.001	0%	102%
o-Xylene	LB091892	mg/L	0.001	<0.001	0%	106%
Xylenes	LB091892	mg/L	0.001	<0.001	0%	NA
Total Trichlorobenzenes	LB091892	mg/L	0.001	<0.001	0%	NA
Total trihalomethanes (THMs)	LB091892	mg/L	0.002	<0.002	0%	NA
Total BTEX	LB091892	mg/L	0.001	<0.001	0%	NA
Toluene-d8 (surrogate)	LB091892	%	-	105%	1%	103%
1,2-Dichloroethane_D4 (Surrogate)	LB091892	%	-	98%	1 - 2%	95%
Dibromofluoromethane (Surrogate)	LB091892	%	-	101%	0 - 1%	98%
p-Bromofluorobenzene (Surrogate)	LB091892	%	-	98%	0 - 1%	110%



QC SUMMARY

ME373705 R0

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.

VPH in Water MA-30 Method: MA30-VPH

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
C6-C9 (P&T)	LB091892	mg/L	0.01	<0.01	0%	71%
C6-C10 (P&T)	LB091892	mg/L	0.01	<0.01	0%	69%
C6-C10 (P&T) less BTEX (F1)	LB091892	mg/L	0.01	<0.01	0%	NA

METHOD

METHODOLOGY SUMMARY

EPA 8260B-01

This method is used to quantify Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

EPA8260B-ADD

This method is used to quantify additional Volatile Organic Compounds in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

EPA8260B-ADD

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40. The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions". Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS).

MA30-VPH

This method is used to quantify Total Petroleum Hydrocarbon (TPH) fractions in aqueous samples using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5030B (Purge and Trap for aqueous samples).

MA30-VPH

Aqueous samples are loaded onto the auto sampler in 40ml vials. A stream of helium is passed through a portion of the aqueous sample; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

MA8270

This method covers analytical procedures for the analysis of semi-volatile organic compounds (SVOC) including most neutral, acidic, and basic organic compounds based on the USEPA method 8270D. Samples are extracted into a solvent appropriate to the matrix and analysed using a gas chromatograph – triple quadrupole (GC-QQQ). Total PAH calculated from individual analyte detections at or above the limit of reporting.

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

ME373705 R0

CLIENT DETAILS

Contact SGS Environmental Perth
Client SGS I&E EHS PERTH AIRPORT
Address 28 Reid Road
Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
Facsimile +61 (0)8 9373 3556
Email au.environmental.subcon@sgs.com

Project **P25.045**
Order Number **PE184202**
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 **ME373705 R0**
Date Received 10 Jul 2025
Date Reported 15 Jul 2025

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:

Surrogate

SVOC Compounds in Waters by GC-QQQ

6 items

SAMPLE SUMMARY

Date documentation received	10/7/2025	Sample counts by matrix	9 Water
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	Two Days	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	9 Ice Bricks
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	3	Type of documentation received	COC



HOLDING TIME SUMMARY

ME373705 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 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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184202.001	ME373705.001	LB091883	07 Jul 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025	08 Aug 2025	15 Jul 2025
PE184202.002	ME373705.002	LB091883	07 Jul 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025	08 Aug 2025	15 Jul 2025
PE184202.003	ME373705.003	LB091883	07 Jul 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025	08 Aug 2025	15 Jul 2025
PE184202.005	ME373705.005	LB091883	07 Jul 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025	08 Aug 2025	15 Jul 2025
PE184202.006	ME373705.006	LB091883	07 Jul 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025	08 Aug 2025	15 Jul 2025
PE184202.007	ME373705.007	LB091883	07 Jul 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025	08 Aug 2025	15 Jul 2025
PE184202.008	ME373705.008	LB091883	07 Jul 2025	10 Jul 2025	04 Aug 2025	11 Jul 2025	08 Aug 2025	15 Jul 2025

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184202.001	ME373705.001	LB091920	07 Jul 2025	10 Jul 2025	14 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.002	ME373705.002	LB091920	07 Jul 2025	10 Jul 2025	14 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.003	ME373705.003	LB091920	07 Jul 2025	10 Jul 2025	14 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.004	ME373705.004	LB091920	07 Jul 2025	10 Jul 2025	14 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.005	ME373705.005	LB091920	07 Jul 2025	10 Jul 2025	14 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.006	ME373705.006	LB091920	07 Jul 2025	10 Jul 2025	14 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.007	ME373705.007	LB091920	07 Jul 2025	10 Jul 2025	14 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025

TRH in Water MA-30.VVW.05 Old & New Fractions mg/L

Method: MA30

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184202.001	ME373705.001	LB091921	07 Jul 2025	10 Jul 2025	21 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.002	ME373705.002	LB091921	07 Jul 2025	10 Jul 2025	21 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.003	ME373705.003	LB091921	07 Jul 2025	10 Jul 2025	21 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.004	ME373705.004	LB091921	07 Jul 2025	10 Jul 2025	21 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.005	ME373705.005	LB091921	07 Jul 2025	10 Jul 2025	21 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.006	ME373705.006	LB091921	07 Jul 2025	10 Jul 2025	21 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.007	ME373705.007	LB091921	07 Jul 2025	10 Jul 2025	21 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.008	ME373705.008	LB091921	07 Jul 2025	10 Jul 2025	21 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025
PE184202.009	ME373705.009	LB091921	07 Jul 2025	10 Jul 2025	21 Jul 2025	14 Jul 2025	23 Aug 2025	15 Jul 2025

USEPA 8260B Additional VOCs in water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184202.001	ME373705.001	LB091888	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025
PE184202.005	ME373705.005	LB091888	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025
PE184202.006	ME373705.006	LB091888	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025
PE184202.007	ME373705.007	LB091888	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184202.001	ME373705.001	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025
PE184202.002	ME373705.002	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	15 Jul 2025
PE184202.003	ME373705.003	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	15 Jul 2025
PE184202.004	ME373705.004	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	15 Jul 2025
PE184202.005	ME373705.005	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025
PE184202.006	ME373705.006	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025
PE184202.007	ME373705.007	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025
PE184202.008	ME373705.008	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025
PE184202.009	ME373705.009	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	21 Jul 2025	14 Jul 2025

VPH in Water MA-30

Method: MA30-VPH

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184202.001	ME373705.001	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	20 Aug 2025	14 Jul 2025
PE184202.002	ME373705.002	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	20 Aug 2025	14 Jul 2025
PE184202.003	ME373705.003	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	20 Aug 2025	14 Jul 2025
PE184202.004	ME373705.004	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	20 Aug 2025	14 Jul 2025
PE184202.005	ME373705.005	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	20 Aug 2025	14 Jul 2025
PE184202.006	ME373705.006	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	20 Aug 2025	14 Jul 2025
PE184202.007	ME373705.007	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	20 Aug 2025	14 Jul 2025
PE184202.008	ME373705.008	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	20 Aug 2025	14 Jul 2025
PE184202.009	ME373705.009	LB091892	07 Jul 2025	10 Jul 2025	21 Jul 2025	11 Jul 2025	20 Aug 2025	14 Jul 2025



SURROGATES

ME373705 R0

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 Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	29
	PE184202.002	ME373705.002	%	10 - 150%	53
	PE184202.003	ME373705.003	%	10 - 150%	37
	PE184202.005	ME373705.005	%	10 - 150%	41
	PE184202.006	ME373705.006	%	10 - 150%	104
	PE184202.007	ME373705.007	%	10 - 150%	19
	PE184202.008	ME373705.008	%	10 - 150%	66
	PE184202.001	ME373705.001	%	10 - 150%	65
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184202.002	ME373705.002	%	10 - 150%	59
	PE184202.003	ME373705.003	%	10 - 150%	77
	PE184202.005	ME373705.005	%	10 - 150%	65
	PE184202.006	ME373705.006	%	10 - 150%	56
	PE184202.007	ME373705.007	%	10 - 150%	61
	PE184202.008	ME373705.008	%	10 - 150%	104
	PE184202.001	ME373705.001	%	10 - 150%	87
	PE184202.002	ME373705.002	%	10 - 150%	54
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184202.003	ME373705.003	%	10 - 150%	106
	PE184202.005	ME373705.005	%	10 - 150%	86
	PE184202.006	ME373705.006	%	10 - 150%	67
	PE184202.007	ME373705.007	%	10 - 150%	68
	PE184202.008	ME373705.008	%	10 - 150%	105
	PE184202.001	ME373705.001	%	10 - 150%	76
	PE184202.002	ME373705.002	%	10 - 150%	49
	PE184202.003	ME373705.003	%	10 - 150%	109
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184202.005	ME373705.005	%	10 - 150%	85
	PE184202.006	ME373705.006	%	10 - 150%	67
	PE184202.007	ME373705.007	%	10 - 150%	62
	PE184202.008	ME373705.008	%	10 - 150%	109
	PE184202.001	ME373705.001	%	10 - 150%	99
	PE184202.002	ME373705.002	%	10 - 150%	112
	PE184202.003	ME373705.003	%	10 - 150%	108
	PE184202.005	ME373705.005	%	10 - 150%	98
(13C2-PFDa) Isotopically Labelled Internal Recovery Standard	PE184202.006	ME373705.006	%	10 - 150%	137
	PE184202.007	ME373705.007	%	10 - 150%	56
	PE184202.008	ME373705.008	%	10 - 150%	113
	PE184202.001	ME373705.001	%	10 - 150%	50
	PE184202.002	ME373705.002	%	10 - 150%	67
	PE184202.003	ME373705.003	%	10 - 150%	57
	PE184202.005	ME373705.005	%	10 - 150%	71
	PE184202.006	ME373705.006	%	10 - 150%	65
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	PE184202.007	ME373705.007	%	10 - 150%	35
	PE184202.008	ME373705.008	%	10 - 150%	118
	PE184202.001	ME373705.001	%	10 - 150%	78
	PE184202.002	ME373705.002	%	10 - 150%	85
	PE184202.003	ME373705.003	%	10 - 150%	83
	PE184202.005	ME373705.005	%	10 - 150%	96
	PE184202.006	ME373705.006	%	10 - 150%	78
	PE184202.007	ME373705.007	%	10 - 150%	82
(13C3-PFBs) Isotopically Labelled Internal Recovery Standard	PE184202.008	ME373705.008	%	10 - 150%	99
	PE184202.001	ME373705.001	%	10 - 150%	100
	PE184202.002	ME373705.002	%	10 - 150%	98
	PE184202.003	ME373705.003	%	10 - 150%	104
	PE184202.005	ME373705.005	%	10 - 150%	116
	PE184202.006	ME373705.006	%	10 - 150%	99
	PE184202.007	ME373705.007	%	10 - 150%	97
	PE184202.008	ME373705.008	%	10 - 150%	113
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	97
	PE184202.002	ME373705.002	%	10 - 150%	98
	PE184202.003	ME373705.003	%	10 - 150%	102
	PE184202.005	ME373705.005	%	10 - 150%	98
	PE184202.006	ME373705.006	%	10 - 150%	92
	PE184202.001	ME373705.001	%	10 - 150%	97
	PE184202.002	ME373705.002	%	10 - 150%	98
	PE184202.003	ME373705.003	%	10 - 150%	102
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	PE184202.005	ME373705.005	%	10 - 150%	98
	PE184202.006	ME373705.006	%	10 - 150%	92
	PE184202.001	ME373705.001	%	10 - 150%	97
	PE184202.002	ME373705.002	%	10 - 150%	98
	PE184202.003	ME373705.003	%	10 - 150%	102
	PE184202.005	ME373705.005	%	10 - 150%	98
	PE184202.006	ME373705.006	%	10 - 150%	92
	PE184202.001	ME373705.001	%	10 - 150%	97



SURROGATES

ME373705 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	PE184202.007	ME373705.007	%	10 - 150%	100
	PE184202.008	ME373705.008	%	10 - 150%	99
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	101
	PE184202.002	ME373705.002	%	10 - 150%	101
	PE184202.003	ME373705.003	%	10 - 150%	98
	PE184202.005	ME373705.005	%	10 - 150%	100
	PE184202.006	ME373705.006	%	10 - 150%	102
	PE184202.007	ME373705.007	%	10 - 150%	102
	PE184202.008	ME373705.008	%	10 - 150%	97
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	95
	PE184202.002	ME373705.002	%	10 - 150%	94
	PE184202.003	ME373705.003	%	10 - 150%	99
	PE184202.005	ME373705.005	%	10 - 150%	103
	PE184202.006	ME373705.006	%	10 - 150%	91
	PE184202.007	ME373705.007	%	10 - 150%	105
	PE184202.008	ME373705.008	%	10 - 150%	96
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	90
	PE184202.002	ME373705.002	%	10 - 150%	89
	PE184202.003	ME373705.003	%	10 - 150%	92
	PE184202.005	ME373705.005	%	10 - 150%	95
	PE184202.006	ME373705.006	%	10 - 150%	85
	PE184202.007	ME373705.007	%	10 - 150%	94
	PE184202.008	ME373705.008	%	10 - 150%	93
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	106
	PE184202.002	ME373705.002	%	10 - 150%	104
	PE184202.003	ME373705.003	%	10 - 150%	104
	PE184202.005	ME373705.005	%	10 - 150%	117
	PE184202.006	ME373705.006	%	10 - 150%	105
	PE184202.007	ME373705.007	%	10 - 150%	118
	PE184202.008	ME373705.008	%	10 - 150%	93
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	108
	PE184202.002	ME373705.002	%	10 - 150%	96
	PE184202.003	ME373705.003	%	10 - 150%	96
	PE184202.005	ME373705.005	%	10 - 150%	85
	PE184202.006	ME373705.006	%	10 - 150%	120
	PE184202.007	ME373705.007	%	10 - 150%	110
	PE184202.008	ME373705.008	%	10 - 150%	86
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	97
	PE184202.002	ME373705.002	%	10 - 150%	91
	PE184202.003	ME373705.003	%	10 - 150%	89
	PE184202.005	ME373705.005	%	10 - 150%	96
	PE184202.006	ME373705.006	%	10 - 150%	114
	PE184202.007	ME373705.007	%	10 - 150%	62
	PE184202.008	ME373705.008	%	10 - 150%	100
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	107
	PE184202.002	ME373705.002	%	10 - 150%	98
	PE184202.003	ME373705.003	%	10 - 150%	116
	PE184202.005	ME373705.005	%	10 - 150%	94
	PE184202.006	ME373705.006	%	10 - 150%	97
	PE184202.007	ME373705.007	%	10 - 150%	91
	PE184202.008	ME373705.008	%	10 - 150%	99
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	101
	PE184202.002	ME373705.002	%	10 - 150%	115
	PE184202.003	ME373705.003	%	10 - 150%	123
	PE184202.005	ME373705.005	%	10 - 150%	114
	PE184202.006	ME373705.006	%	10 - 150%	98
	PE184202.007	ME373705.007	%	10 - 150%	94
	PE184202.008	ME373705.008	%	10 - 150%	141
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	92
	PE184202.002	ME373705.002	%	10 - 150%	97
	PE184202.003	ME373705.003	%	10 - 150%	93



SURROGATES

ME373705 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	PE184202.005	ME373705.005	%	10 - 150%	89
	PE184202.006	ME373705.006	%	10 - 150%	97
	PE184202.007	ME373705.007	%	10 - 150%	98
	PE184202.008	ME373705.008	%	10 - 150%	105
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	83
	PE184202.002	ME373705.002	%	10 - 150%	72
	PE184202.003	ME373705.003	%	10 - 150%	55
	PE184202.005	ME373705.005	%	10 - 150%	72
	PE184202.006	ME373705.006	%	10 - 150%	121
	PE184202.007	ME373705.007	%	10 - 150%	17
	PE184202.008	ME373705.008	%	10 - 150%	143
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	62
	PE184202.002	ME373705.002	%	10 - 150%	69
	PE184202.003	ME373705.003	%	10 - 150%	83
	PE184202.005	ME373705.005	%	10 - 150%	65
	PE184202.006	ME373705.006	%	10 - 150%	78
	PE184202.007	ME373705.007	%	10 - 150%	44
	PE184202.008	ME373705.008	%	10 - 150%	102
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	PE184202.001	ME373705.001	%	10 - 150%	12
	PE184202.002	ME373705.002	%	10 - 150%	67
	PE184202.003	ME373705.003	%	10 - 150%	20
	PE184202.005	ME373705.005	%	10 - 150%	52
	PE184202.006	ME373705.006	%	10 - 150%	101
	PE184202.007	ME373705.007	%	10 - 150%	11
	PE184202.008	ME373705.008	%	10 - 150%	117
	PE184202.001	ME373705.001	%	10 - 150%	74
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	PE184202.002	ME373705.002	%	10 - 150%	65
	PE184202.003	ME373705.003	%	10 - 150%	88
	PE184202.005	ME373705.005	%	10 - 150%	73
	PE184202.006	ME373705.006	%	10 - 150%	80
	PE184202.007	ME373705.007	%	10 - 150%	29
	PE184202.008	ME373705.008	%	10 - 150%	125
	PE184202.001	ME373705.001	%	10 - 150%	63
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	PE184202.002	ME373705.002	%	10 - 150%	107
	PE184202.003	ME373705.003	%	10 - 150%	98
	PE184202.005	ME373705.005	%	10 - 150%	89
	PE184202.006	ME373705.006	%	10 - 150%	100
	PE184202.007	ME373705.007	%	10 - 150%	57
	PE184202.008	ME373705.008	%	10 - 150%	135
	PE184202.001	ME373705.001	%	10 - 150%	56
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	PE184202.002	ME373705.002	%	10 - 150%	95
	PE184202.003	ME373705.003	%	10 - 150%	86
	PE184202.005	ME373705.005	%	10 - 150%	86
	PE184202.006	ME373705.006	%	10 - 150%	105
	PE184202.007	ME373705.007	%	10 - 150%	38
	PE184202.008	ME373705.008	%	10 - 150%	125

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	PE184202.001	ME373705.001	%	40 - 130%	129
	PE184202.002	ME373705.002	%	40 - 130%	123
	PE184202.003	ME373705.003	%	40 - 130%	117
	PE184202.004	ME373705.004	%	40 - 130%	153 Ⓢ
	PE184202.005	ME373705.005	%	40 - 130%	148 Ⓢ
	PE184202.006	ME373705.006	%	40 - 130%	142 Ⓢ
	PE184202.007	ME373705.007	%	40 - 130%	158 Ⓢ
2-fluorobiphenyl (Surrogate)	PE184202.001	ME373705.001	%	40 - 130%	88
	PE184202.002	ME373705.002	%	40 - 130%	69
	PE184202.003	ME373705.003	%	40 - 130%	78
	PE184202.004	ME373705.004	%	40 - 130%	65
	PE184202.005	ME373705.005	%	40 - 130%	68



SURROGATES

ME373705 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	PE184202.006	ME373705.006	%	40 - 130%	68
	PE184202.007	ME373705.007	%	40 - 130%	74
2-fluorophenol (Surrogate)	PE184202.001	ME373705.001	%	40 - 130%	59
	PE184202.002	ME373705.002	%	40 - 130%	56
	PE184202.003	ME373705.003	%	40 - 130%	46
	PE184202.004	ME373705.004	%	40 - 130%	66
	PE184202.005	ME373705.005	%	40 - 130%	64
	PE184202.006	ME373705.006	%	40 - 130%	62
	PE184202.007	ME373705.007	%	40 - 130%	118
d14-p-terphenyl (Surrogate)	PE184202.001	ME373705.001	%	40 - 130%	109
	PE184202.002	ME373705.002	%	40 - 130%	104
	PE184202.003	ME373705.003	%	40 - 130%	113
	PE184202.004	ME373705.004	%	40 - 130%	111
	PE184202.005	ME373705.005	%	40 - 130%	108
	PE184202.006	ME373705.006	%	40 - 130%	111
	PE184202.007	ME373705.007	%	40 - 130%	114
d5-nitrobenzene (Surrogate)	PE184202.001	ME373705.001	%	40 - 130%	115
	PE184202.002	ME373705.002	%	40 - 130%	118
	PE184202.003	ME373705.003	%	40 - 130%	118
	PE184202.004	ME373705.004	%	40 - 130%	115
	PE184202.005	ME373705.005	%	40 - 130%	116
	PE184202.006	ME373705.006	%	40 - 130%	119
	PE184202.007	ME373705.007	%	40 - 130%	119
d6-phenol (Surrogate)	PE184202.001	ME373705.001	%	40 - 130%	42
	PE184202.002	ME373705.002	%	40 - 130%	37 ①
	PE184202.003	ME373705.003	%	40 - 130%	32 ①
	PE184202.004	ME373705.004	%	40 - 130%	48
	PE184202.005	ME373705.005	%	40 - 130%	47
	PE184202.006	ME373705.006	%	40 - 130%	41
	PE184202.007	ME373705.007	%	40 - 130%	53

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
1,2-Dichloroethane_D4 (Surrogate)	PE184202.001	ME373705.001	%	60 - 130%	94
	PE184202.005	ME373705.005	%	60 - 130%	95
	PE184202.006	ME373705.006	%	60 - 130%	95
	PE184202.007	ME373705.007	%	60 - 130%	97
	PE184202.008	ME373705.008	%	60 - 130%	97
Dibromofluoromethane (Surrogate)	PE184202.001	ME373705.001	%	60 - 130%	98
	PE184202.005	ME373705.005	%	60 - 130%	99
	PE184202.006	ME373705.006	%	60 - 130%	100
	PE184202.007	ME373705.007	%	60 - 130%	101
	PE184202.008	ME373705.008	%	60 - 130%	101
p-Bromofluorobenzene (Surrogate)	PE184202.001	ME373705.001	%	60 - 130%	100
	PE184202.005	ME373705.005	%	60 - 130%	99
	PE184202.006	ME373705.006	%	60 - 130%	98
	PE184202.007	ME373705.007	%	60 - 130%	97
	PE184202.008	ME373705.008	%	60 - 130%	97
Toluene-d8 (surrogate)	PE184202.001	ME373705.001	%	60 - 130%	105
	PE184202.005	ME373705.005	%	60 - 130%	105
	PE184202.006	ME373705.006	%	60 - 130%	103
	PE184202.007	ME373705.007	%	60 - 130%	105
	PE184202.008	ME373705.008	%	60 - 130%	104

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 Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result
LB091883.001	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	<0.0005
	Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005
	Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	<0.0005
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	<0.0002
	Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001
	Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001
	Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002
	Perfluorobutane sulfonate (PFBS)	µg/L	0.001	<0.001
	Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	<0.001
	Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	<0.0002
	Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	<0.0002
	Sum of PFHxS and PFOS	µg/L	0.0002	<0.0002
	Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005
	Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005
	Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	<0.0005
	1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002
	N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025
	2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	µg/L	0.0025	<0.0025
	2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	µg/L	0.0025	<0.0025
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	µg/L	0.0025	<0.0025
	N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	µg/L	0.0025	<0.0025
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	%	-	98
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	%	-	93
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	%	-	98
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	%	-	97
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	%	-	105
	(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	%	-	88
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	%	-	58
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	%	-	118
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	%	-	124
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	%	-	87
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	120
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	127
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	114
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	%	-	146
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	%	-	115
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	%	-	141
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	%	-	134
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	110
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	103

SVOC Compounds in Waters by GC-QQQ

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091920.001	Acenaphthene	µg/L	1	<1
	Acenaphthylene	µg/L	1	<1
	Anthracene	µg/L	1	<1



METHOD BLANKS

ME373705 R0

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.

SVOC Compounds in Waters by GC-QQQ (continued)

Method: MA8270

Sample Number	Parameter	Units	LOR	Result
LB091920.001	Benzo(a)anthracene	µg/L	1	<1
	Benzo (a) pyrene	µg/L	1	<1
	Benzo (b) fluoranthene	µg/L	1	<1
	Benzo (ghi) perylene	µg/L	1	<1
	Benzo (k) fluoranthene	µg/L	1	<1
	Benzo (b+j+k) fluoranthene	µg/L	2	<2
	Chrysene	µg/L	1	<1
	Dibenz (ah) anthracene	µg/L	1	<1
	Fluoranthene	µg/L	1	<1
	Fluorene	µg/L	1	<1
	Indeno (1,2,3-cd) pyrene	µg/L	1	<1
	Naphthalene	µg/L	1	<1
	Phenanthrene	µg/L	1	<1
	Pyrene	µg/L	1	<1

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result
LB091921.001	TRH C10-C14	mg/L	0.01	<0.01
	TRH C15-C28	mg/L	0.05	<0.05
	TRH C29-C36	mg/L	0.05	<0.05
	Total TRH C10-C36	mg/L	0.05	<0.05
	Total TRH C6-C36	mg/L	0.05	<0.05
	TRH >C10-C40 Total (F)	mg/L	0.05	<0.05
	TRH F Bands	mg/L	0.01	<0.01
	TRH >C10-C16	mg/L	0.01	<0.01
	TRH >C10-C16 less Naphthalene (F2)	mg/L	0.01	<0.01
	TRH >C16-C34 (F3)	mg/L	0.05	<0.05
	TRH >C34-C40 (F4)	mg/L	0.05	<0.05
	Total TRH C6-C40 (F)	mg/L	0.05	<0.05

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091892.001	Benzene	mg/L	0.001	<0.001
	Bromobenzene	mg/L	0.001	<0.001
	Bromochloromethane	mg/L	0.001	<0.001
	Bromodichloromethane	mg/L	0.001	<0.001
	Bromomethane	mg/L	0.001	<0.001
	n-Butylbenzene	mg/L	0.001	<0.001
	s-Butylbenzene	mg/L	0.001	<0.001
	t-Butylbenzene	mg/L	0.001	<0.001
	Carbon tetrachloride	mg/L	0.001	<0.001
	Chlorobenzene	mg/L	0.001	<0.001
	Chloroethane	mg/L	0.001	<0.001
	Chloromethane	mg/L	0.001	<0.001
	2-Chlorotoluene	mg/L	0.001	<0.001
	4-Chlorotoluene	mg/L	0.001	<0.001
	Dibromochloromethane	mg/L	0.001	<0.001
	1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001
	1,2-Dibromoethane	mg/L	0.001	<0.001
	Dibromomethane	mg/L	0.001	<0.001
	1,2-Dichlorobenzene	mg/L	0.001	<0.001
	1,3-Dichlorobenzene	mg/L	0.001	<0.001
	1,4-Dichlorobenzene	mg/L	0.001	<0.001
	Dichlorodifluoromethane	mg/L	0.001	<0.001
	1,2-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethane	mg/L	0.001	<0.001
	1,1-Dichloroethene	mg/L	0.001	<0.001
	cis-1,2-Dichloroethene	mg/L	0.001	<0.001
	trans-1,2-Dichloroethene	mg/L	0.001	<0.001
	Dichloromethane (methylene chloride)	mg/L	0.01	<0.01
	1,2-Dichloropropane	mg/L	0.001	<0.001
	1,3-Dichloropropane	mg/L	0.001	<0.001
	2,2-Dichloropropane	mg/L	0.001	<0.001



METHOD BLANKS

ME373705 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result
LB091892.001	1,1-Dichloropropene	mg/L	0.001	<0.001
	cis-1,3-Dichloropropene	mg/L	0.001	<0.001
	trans-1,3-Dichloropropene	mg/L	0.001	<0.001
	Ethylbenzene	mg/L	0.001	<0.001
	Hexachloro-1,3-butadiene	mg/L	0.001	<0.001
	Isopropylbenzene	mg/L	0.001	<0.001
	p-Isopropyltoluene	mg/L	0.001	<0.001
	Naphthalene (VOC)	mg/L	0.001	<0.001
	Propylbenzene	mg/L	0.001	<0.001
	Styrene	mg/L	0.001	<0.001
	1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001
	Tetrachloroethene	mg/L	0.001	<0.001
	1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001
	Toluene	mg/L	0.001	<0.001
	Tribromomethane	mg/L	0.001	<0.001
	1,2,3-Trichlorobenzene	mg/L	0.001	<0.001
	1,2,4-Trichlorobenzene	mg/L	0.001	<0.001
	1,1,1-Trichloroethane	mg/L	0.001	<0.001
	1,1,2-Trichloroethane	mg/L	0.001	<0.001
	Trichloroethene	mg/L	0.001	<0.001
	Trichlorofluoromethane	mg/L	0.001	<0.001
	Trichloromethane	mg/L	0.001	<0.001
	1,2,3-Trichloropropane	mg/L	0.001	<0.001
	1,2,4-Trimethylbenzene	mg/L	0.001	<0.001
	1,3,5-Trimethylbenzene	mg/L	0.001	<0.001
	Vinyl Chloride	mg/L	0.001	<0.001
	m&p-Xylenes	mg/L	0.001	<0.001
	o-Xylene	mg/L	0.001	<0.001
	Xylenes	mg/L	0.001	<0.001
	Toluene-d8 (surrogate)	%	-	105
	1,2-Dichloroethane_D4 (Surrogate)	%	-	98
	Dibromofluoromethane (Surrogate)	%	-	101
	p_Bromofluorobenzene (Surrogate)	%	-	98

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result
LB091892.001	C6-C9 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T)	mg/L	0.01	<0.01
	C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373705.001	LB091883.004	Perfluorobutanoic acid (PFBA)	µg/L	0.0005	0.0018	0.0015	200	18
		Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	0.0011	0.0008	200	35
		Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.0032	0.0031	200	4
		Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorododecanoic acid (PFDoA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	200	0
		Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	<0.002	<0.002	200	0
		Perfluorobutane sulfonate (PFBS)	µg/L	0.001	0.005	0.005	200	4
		Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	0.001	0.002	200	23
		Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	0.012	0.014	200	20
		Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	<0.0002	<0.0002	200	0
		Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.0023	0.0031	200	30
		Sum of PFHxS and PFOS	µg/L	0.0002	0.014	0.018	200	22
		Perfluorononane sulfonate (PFNS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	0.0073	0.0064	200	14
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	<0.0005	<0.0005	200	0
		Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	<0.0025	<0.0025	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	µg/L	-	10.1	10.1	200	0
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	µg/L	-	10.6	10.4	200	2
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	µg/L	-	8.95	8.86	200	1
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	µg/L	-	9.50	9.45	200	0
		(13C4_PFOA) Isotopically Labelled Internal Recovery	µg/L	-	9.74	9.53	200	2
		(13C9-PFNA) Isotopically Labelled Internal Recovery	µg/L	-	9.22	10.3	200	11
		(13C6-PFDA) Isotopically Labelled Internal Recovery	µg/L	-	10.8	9.19	200	16
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	µg/L	-	9.65	10.6	200	10
		(13C2-PFDoA) Isotopically Labelled Internal Recovery	µg/L	-	9.91	11.7	200	17
		(13C2_PFTeDA) Isotopically Labelled Internal Recovery	µg/L	-	2.93	11.7	200	120
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	µg/L	-	4.97	8.78	200	55
		(13C3-PFBS) Isotopically Labelled Internal Recovery	µg/L	-	7.80	8.33	200	6
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	µg/L	-	9.98	8.45	200	17
		(13C8-PFOS) Isotopically Labelled Internal Recovery	µg/L	-	10.7	10.4	200	3
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	6.47	7.11	200	9
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	8.73	8.99	200	3
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	µg/L	-	7.60	7.01	200	8
		(13C8-PFOSA) Isotopically Labelled Internal Recovery	µg/L	-	10.1	11.7	200	14
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	µg/L	-	8.29	11.0	200	28
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	µg/L	-	1.20	10.7	200	160
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	µg/L	-	6.30	11.4	200	58
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	µg/L	-	5.57	11.2	200	67
		(D3-N-MeFOSAA) Isotopically Labelled Internal	µg/L	-	6.18	7.49	200	19
		(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	µg/L	-	7.35	8.98	200	20

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373701.001	LB091892.004	Benzene	mg/L	0.001	<0.001	<0.001	200	0
		Ethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	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 give a different calculated RPD.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373701.001	LB091892.004	Toluene	mg/L	0.001	<0.001	<0.001	200	0
		m&p-Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		o-Xylene	mg/L	0.001	<0.001	<0.001	200	0
		Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		Total BTEX	mg/L	0.001	<0.002	<0.002	200	0
		Toluene-d8 (surrogate)	µg/L	-	52.4	52.8	30	1
		1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	50.5	51.0	30	1
		Dibromofluoromethane (Surrogate)	µg/L	-	51.9	52.0	30	0
		p_Bromofluorobenzene (Surrogate)	µg/L	-	48.6	48.5	30	0
ME373705.006	LB091892.015	Benzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Bromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromodichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		Bromomethane	mg/L	0.001	<0.001	<0.001	200	0
		n-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		s-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		t-Butylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Carbon tetrachloride	mg/L	0.001	<0.001	<0.001	200	0
		Chlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Chloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Chloromethane	mg/L	0.001	<0.001	<0.001	200	0
		2-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		4-Chlorotoluene	mg/L	0.001	<0.001	<0.001	200	0
		Dibromochloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromo-3-chloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dibromoethane	mg/L	0.001	<0.001	<0.001	200	0
		Dibromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,4-Dichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		Dichlorodifluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,2-Dichloroethene	mg/L	0.001	<0.001	<0.001	200	0
		Dichloromethane (methylene chloride)	mg/L	0.01	<0.01	<0.01	200	0
		1,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,3-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		2,2-Dichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,1-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		cis-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		trans-1,3-Dichloropropene	mg/L	0.001	<0.001	<0.001	200	0
		Ethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Hexachloro-1,3-butadiene	mg/L	0.001	<0.001	<0.001	200	0
		Isopropylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		p-Isopropyltoluene	mg/L	0.001	<0.001	<0.001	200	0
		Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	200	0
		Propylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Styrene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Tetrachloroethene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1,2-Tetrachloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Toluene	mg/L	0.001	<0.001	<0.001	200	0
		Tribromomethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trichlorobenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,1,1-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		1,1,2-Trichloroethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloroethene	mg/L	0.001	<0.001	<0.001	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 give a different calculated RPD.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373705.006	LB091892.015	Trichlorofluoromethane	mg/L	0.001	<0.001	<0.001	200	0
		Trichloromethane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,3-Trichloropropane	mg/L	0.001	<0.001	<0.001	200	0
		1,2,4-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		1,3,5-Trimethylbenzene	mg/L	0.001	<0.001	<0.001	200	0
		Vinyl Chloride	mg/L	0.001	<0.001	<0.001	200	0
		m&p-Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		o-Xylene	mg/L	0.001	<0.001	<0.001	200	0
		Xylenes	mg/L	0.001	<0.001	<0.001	200	0
		Total Trichlorobenzenes	mg/L	0.001	<0.001	<0.001	200	0
		Total trihalomethanes (THMs)	mg/L	0.002	<0.002	<0.002	200	0
		Total BTEX	mg/L	0.001	<0.001	<0.001	200	0
		Toluene-d8 (surrogate)	µg/L	-	51.7	52.2	30	1
		1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	47.5	48.4	30	2
		Dibromofluoromethane (Surrogate)	µg/L	-	49.9	50.2	30	1
		p-Bromofluorobenzene (Surrogate)	µg/L	-	48.8	49.3	30	1

VPH in Water MA-30

Method: MA30-VPH

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373701.001	LB091892.004	C6-C9 (P&T)	mg/L	0.01	<10	<10	200	0
		C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	200	0
ME373705.006	LB091892.015	C6-C9 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T)	mg/L	0.01	<0.01	<0.01	200	0
		C6-C10 (P&T) less BTEX (F1)	mg/L	0.01	<0.01	<0.01	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.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091883.002	Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	0.014	0.02	40 - 150	69
	Perfluorooctanoic Acid (PFOA)	µg/L	0.0002	0.016	0.02	40 - 150	81
	Perfluorononanoic acid (PFNA)	µg/L	0.001	0.014	0.02	40 - 150	71
	Perfluorodecanoic acid (PFDA)	µg/L	0.001	0.015	0.02	40 - 150	73
	Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	0.013	0.02	40 - 150	66
	Perfluorododecanoic acid (PFDoA)	µg/L	0.001	0.014	0.02	40 - 150	70
	Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	0.015	0.02	40 - 150	76
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	0.016	0.02	40 - 150	82
	Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	0.016	0.02	40 - 150	78
	Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	0.011	0.02	40 - 150	57
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.2	10	10 - 150	102
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.79	10	10 - 150	98
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.21	10	10 - 150	92
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.02	10	10 - 150	90
	(13C4-PFOA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.41	10	10 - 150	94
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.29	10	10 - 150	93
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.5	10	10 - 150	105
	(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	10	10 - 150	101
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	µg/L	-	12.1	10	10 - 150	121
	(13C2-PFTeDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	7.29	10	10 - 150	73
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	µg/L	-	3.52	10	10 - 150	35
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.85	9.3	10 - 150	95
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	µg/L	-	10.1	9.46	9 - 150	107
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.03	9.28	10 - 150	97
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.82	9.34	10 - 150	94
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.75	9.5	10 - 150	92
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.88	9.58	10 - 150	103
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	14.2	10	10 - 150	142
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.26	10	10 - 150	83
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.58	10	10 - 150	96
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	12.3	10	10 - 150	123
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	µg/L	-	12.0	10	10 - 150	120
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	9.24	10	10 - 150	92
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	µg/L	-	8.48	10	10 - 150	85

TRH in Water MA-30.WW.05 Old & New Fractions mg/L

Method: MA30

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091921.002	Total TRH C10-C36	mg/L	0.05	23	25	80 - 120	94

USEPA8260B Volatile Organic Compounds in Water

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091892.002	Benzene	mg/L	0.001	0.023	0.025	60 - 140	92
	Bromodichloromethane	mg/L	0.001	0.024	0.025	60 - 140	96
	Carbon tetrachloride	mg/L	0.001	0.023	0.025	60 - 140	93
	Chlorobenzene	mg/L	0.001	0.027	0.025	60 - 140	107
	Dibromochloromethane	mg/L	0.001	0.027	0.025	60 - 140	110
	1,2-Dichlorobenzene	mg/L	0.001	0.024	0.025	60 - 140	95
	1,4-Dichlorobenzene	mg/L	0.001	0.024	0.025	60 - 140	96
	1,2-Dichloroethane	mg/L	0.001	0.023	0.025	60 - 140	94
	1,1-Dichloroethene	mg/L	0.001	0.021	0.025	60 - 140	83
	cis-1,2-Dichloroethene	mg/L	0.001	0.022	0.025	60 - 140	89
	trans-1,2-Dichloroethene	mg/L	0.001	0.021	0.025	60 - 140	84
	Dichloromethane (methylene chloride)	mg/L	0.01	0.02	0.025	60 - 140	91
	1,2-Dichloropropane	mg/L	0.001	0.023	0.025	60 - 140	93
	Ethylbenzene	mg/L	0.001	0.025	0.025	60 - 140	98
	Styrene	mg/L	0.001	0.023	0.025	60 - 140	91
	Tetrachloroethene	mg/L	0.001	0.026	0.025	60 - 140	105
	Toluene	mg/L	0.001	0.027	0.025	60 - 140	106
	Tribromomethane	mg/L	0.001	0.028	0.025	60 - 140	112
	1,2,4-Trichlorobenzene	mg/L	0.001	0.020	0.025	60 - 140	81



LABORATORY CONTROL SAMPLES

ME373705 R0

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.

USEPA8260B Volatile Organic Compounds in Water (continued)

Method: USEPA 8260B

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091892.002	1,1,1-Trichloroethane	mg/L	0.001	0.025	0.025	60 - 140	99
	1,1,2-Trichloroethane	mg/L	0.001	0.026	0.025	60 - 140	102
	Trichloroethene	mg/L	0.001	0.023	0.025	60 - 140	91
	Trichloromethane	mg/L	0.001	0.023	0.025	60 - 140	92
	Vinyl Chloride	mg/L	0.001	0.020	0.025	60 - 140	80
	m&p-Xylenes	mg/L	0.001	0.051	0.05	60 - 140	102
	o-Xylene	mg/L	0.001	0.027	0.025	60 - 140	106
	Toluene-d8 (surrogate)	µg/L	-	51.4	50	70 - 130	103
	1,2-Dichloroethane_D4 (Surrogate)	µg/L	-	47.7	50	70 - 130	95
	Dibromofluoromethane (Surrogate)	µg/L	-	48.8	50	70 - 130	98
	p_Bromofluorobenzene (Surrogate)	µg/L	-	55.0	50	70 - 130	110

VPH in Water MA-30

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091892.002	C6-C9 (P&T)	mg/L	0.01	0.32	0.45	60 - 130	71
	C6-C10 (P&T)	mg/L	0.01	0.34	0.5	60 - 130	69



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

ME373705 R0

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.



SAMPLE RECEIPT ADVICE

PE184202

CLIENT DETAILS

Contact Matt Trenorden
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email matt.t@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 9

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

Samples Received Tue 8/7/2025
Report Due Wed 16/7/2025
SGS Reference **PE184202**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Tuesday 8/7/2025. Results are expected to be ready by COB Wednesday 16/7/2025. Please quote SGS reference PE184202 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Date documentation received	7/7/2025	Sample counts by matrix	9 Water
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	18.6-20.2°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	2		

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

Organics and PFAS to be subcontracted to SGS Notting Hill 8/7/2025

Sample 4, 1L green unpreserved plastic bottle was not received.

Sample 2 to 4, VOC vials were not received.

Sample 3, The 1L green unpreserved plastic bottle and the 250 mL orange plastic bottle were received half full.

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

PE184202

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in	pH in water	SVOC Compounds in Waters by GC-QQQ	TRH in Water MA-30.WW.05 Old & New	USEPA 8260B Additional VOCs in water	USEPA 8260B Volatile Organic Compounds in	VPH in Water MA-30
001	T25-MW02	56	1	24	11	12	69	3
002	T25-MW18	56	1	24	11	-	12	3
003	T25-MW03	56	1	24	11	-	12	3
004	T25-MW30	56	-	24	11	-	12	3
005	THEXT21-GW04	56	1	24	11	12	69	3
006	T25-MW05	56	1	24	11	12	69	3
007	DUP03	56	1	24	11	12	69	3
008	RINS03	56	-	-	11	-	12	3
009	FB/TB	56	-	-	11	-	12	3

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

PE184202

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Acidity and Free CO ₂	Alkalinity	Chloride by Discrete Analyser in Water	Conductivity and TDS by Calculation - Water	Filterable Reactive Phosphorus (FRP)	Nitrate Nitrogen and Nitrite Nitrogen (NO _x) by FIA	Sulfate in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Dissolved Solids (TDS) in water	Total Phosphorus by Kjeldahl Digestion DA in
001	T25-MW02	1	3	1	1	1	2	1	1	1	1
002	T25-MW18	1	3	1	1	1	2	1	1	1	1
003	T25-MW03	1	3	1	1	1	2	1	1	1	1
005	THEXT21-GW04	1	3	1	1	1	2	1	1	1	1
006	T25-MW05	1	3	1	1	1	2	1	1	1	1
007	DUP03	1	3	1	1	1	2	1	1	1	1

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

PE184202

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by FIA	Calculated Nitrogen Forms - TN, organic N, inorganic	Dissolved Oxygen by Membrane Electrode	Mercury (dissolved) in Water	Redox Potential (Eh) in water	Trace Metals (Dissolved) in Water by ICPMS TQe	Trace Metals (Total) in Water by ICPMS TQe
001	T25-MW02	1	1	3	1	2	16	2
002	T25-MW18	1	1	3	1	2	16	2
003	T25-MW03	1	1	-	1	2	16	2
005	THEXT21-GW04	1	1	3	1	2	16	2
006	T25-MW05	1	1	3	1	2	16	2
007	DUP03	1	1	3	1	2	16	2
008	RINS03	-	-	-	1	-	7	-
009	FB/TB	-	-	-	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 .

CLIENT DETAILS

Contact **Filip M**
 Client **WESTERN ENVIRONMENTAL**
 Address **PO BOX 437
 LEEDERVILLE WA 6903**

Telephone **61 8 61628980**
 Facsimile **(Not specified)**
 Email **filip.m@westenv.com.au**

Project **P25.045**
 Order Number **P25.045**
 Samples **7**

LABORATORY DETAILS

Manager **Merene Hwang**
 Laboratory **SGS Perth Environmental**
 Address **28 Reid Rd
 Perth Airport WA 6105**

Telephone **(08) 9373 3500**
 Facsimile **(08) 9373 3556**
 Email **au.environmental.perth@sgs.com**

SGS Reference **PE184089 R0**
 Date Received **04 Jul 2025**
 Date Reported **21 Jul 2025**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(898).

Total Recoverable Metals: Ca, Mg & P: Matrix spike recovery and MSD RPD failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).

Total Recoverable Metals: Zn: Matrix spike recovery and MSD RPD failed due to sample heterogeneity.

Total Recoverable Metals: Zn: Dup RPD failed due to sample heterogeneity.

Organics and PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number 2562 (14420), ME373577

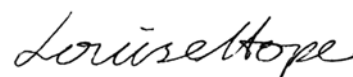
SIGNATORIES



Hue Thanh LY
Metals Team Leader



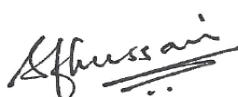
Loan HA
Laboratory Technician



Louise HOPE
Laboratory Technician



Murray O'NEILL
Lab Technician-Nutrients Signatory



Sanaa HUSSAIN
Chemist



Tashi WANGCHUK
Laboratory Technician



ANALYTICAL REPORT

PE184089 R0

Parameter	Units	LOR	Sample Number	PE184089.001	PE184089.002	PE184089.003	PE184089.004
			Sample Matrix	Sediment	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SD01-DOWN	SD02-DOWN	SD03-DOWN	SD04-DOWN

Moisture Content Method: AN002 Tested: 15/7/2025

% Moisture	%w/w	1	37.5	39.0	15.5	24.0
------------	------	---	------	------	------	------

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/7/2025

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001	0.0001	<0.0001	<0.0001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005	0.0006	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	0.0001	<0.0001	<0.0001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	<0.0001	0.0003	<0.0001	<0.0001
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	0.0001	0.0002	<0.0001
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorotridecanoic acid (PFTTrDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	0.0002	<0.0001	<0.0001
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	0.0002	0.0008	0.0004	<0.0001
Sum PFOS and PFHXS	mg/kg	0.0001	0.0002	0.0009	0.0004	<0.0001
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorododecane sulfonate (10:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	98	100	99	100
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	70	82	76	74
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	90	91	90	126
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	100	105	100	128
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	104	95	104	115
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	79	101	84	82
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	129	114	82	112
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	98	100	81	83
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	92	74	69	61
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	60	80	73	132
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	26	48	36	86
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	114	92	110	119
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	102	89	101	115
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	113	104	96	98
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	76	59	83	85
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	71	52	83	56
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	35	46	89	31
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	149	192	247	146
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	181	104	131	142
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	105	87	79	129
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	138	118	129	179
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	118	69	82	160
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	68	68	88	78



ANALYTICAL REPORT

PE184089 R0

Parameter	Units	LOR	Sample Number	PE184089.001	PE184089.002	PE184089.003	PE184089.004
			Sample Matrix	Sediment	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SD01-DOWN	SD02-DOWN	SD03-DOWN	SD04-DOWN

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/7/2025 (continued)

(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	34	41	57	27
--	---	---	----	----	----	----

USEPA 8260B Volatile Organic Compounds in Solids/Soils Method: USEPA 8260 B Tested: 16/7/2025

m&p-Xylenes	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5

Monocyclic Aromatic Hydrocarbons

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
o-Xylenes	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic Aromatic Hydrocarbons

Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
-------------------	-------	-----	------	------	------	------

Surrogates

Toluene-d8 (surrogate)	%	-	91	95	92	93
------------------------	---	---	----	----	----	----



ANALYTICAL REPORT

PE184089 R0

Parameter	Units	LOR	Sample Number	PE184089.001	PE184089.002	PE184089.003	PE184089.004
			Sample Matrix	Sediment	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SD01-DOWN	SD02-DOWN	SD03-DOWN	SD04-DOWN

Volatile Petroleum Hydrocarbons in soil Method: MA30-VPH Tested: 16/7/2025

TRH C6-C9 (P&T)	mg/kg	10	<10	<10	<10	<10
TRH C6-C10 (P&T)	mg/kg	10	<10	<10	<10	<10
TRH C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10	<10	<10	<10

TRH in soil MA-30.SL.01 Method: MA30 Tested: 16/7/2025

TRH C10-C14	mg/kg	10	330	150	18	210
TRH >C10-C16	mg/kg	10	720	230	25	310
TRH>C10-C16 less naphthalene (F2)	mg/kg	10	720	230	25	310
TRH >C16-C34 (F3)	mg/kg	20	1500	950	180	1500
TRH C15-C28	mg/kg	20	1200	580	98	870
TRH C29-C36	mg/kg	20	1100	800	120	900
Total TRH C10-C36	mg/kg	20	2600	1500	240	2000
TRH >C34-C40 (F4)	mg/kg	20	1100	700	94	390
Total TRH C6-C36	mg/kg	20	2600	1500	240	2000
Total TRH C6-C40 (F)	mg/kg	20	3300	1900	300	2200
TRH >C10-C40 (F)	mg/kg	20	3300	1900	300	2200

Field pH for Acid Sulphate Soil Method: AN104 Tested: 17/7/2025

pHf	pH Units	-	7.2	7.6	7.7	7.4
pHfox	pH Units	-	4.3	5.3	5.2	4.3
Reaction Rate (pHfox)*	No unit	-	Slight	Moderate	Moderate	Moderate
pH Difference*	pH Units	-10	2.9	2.3	2.6	3.1

TAA (Titratable Actual Acidity) Method: AN219 Tested: 16/7/2025

pH KCl*	pH Units	-	6.0	7.5	8.9	7.2
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	12	<5	<5	<5
Titratable Actual Acidity (TAA) S%/w/w	%w/w S	0.01	0.02	<0.01	<0.01	<0.01
Sulphur (SKCl)	%w/w	0.005	-	-	-	-

HCl Extractable S, Ca and Mg in Soil/Solids ICP OES Method: AN014 Tested: 15/7/2025

Acid Soluble Sulfur (SHCl)	%w/w	0.005	-	-	-	-
----------------------------	------	-------	---	---	---	---

Chromium Reducible Sulfur (CRS) Method: AN217 Tested: 14/7/2025

Chromium Reducible Sulfur (Scr)	%	0.005	<0.005	<0.005	<0.005	<0.005
Chromium Reducible Sulfur (Scr)	moles H+/T	5	<5	<5	<5	<5
Chromium Reducible Sulfur (Scr)	kg H2SO4/T	0.25	<0.25	<0.25	<0.25	<0.25



ANALYTICAL REPORT

PE184089 R0

Parameter	Units	LOR	Sample Number	PE184089.001	PE184089.002	PE184089.003	PE184089.004
			Sample Matrix	Sediment	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SD01-DOWN	SD02-DOWN	SD03-DOWN	SD04-DOWN

Total Oxidised Nitrogen NO_x (Water Extract) in Soil Method: AN002/AN258 Tested: 17/7/2025

Water Soluble Nitrate Nitrogen, NO ₃ as N*	mg/kg	0.025	7.1	0.54	1.4	0.69
Water Soluble Nitrate/Nitrite Nitrogen, NO _x as N*	mg/kg	0.025	7.9	0.75	1.4	0.83
Water Soluble Nitrite Nitrogen, NO ₂ as N*	mg/kg	0.025	0.80	0.21	0.033	0.14
Water Soluble Nitrate as NO ₃ *	mg/kg	4	31	<4	6	<4
Water Soluble Nitrite, NO ₂ *	mg/kg	3	<3	<3	<3	<3

Total Kjeldahl Nitrogen and Total Nitrogen in Soil/Sludges Method: AN281 Tested: 14/7/2025

Total Kjeldahl Nitrogen*	mg/kg	5	1100	25000	470	6100
Total Nitrogen*	mg/kg	10	1100	25000	480	6100

Ammonia Nitrogen (soluble) in Soil, sediment or biosolids Method: AN002/AN261 Tested: 15/7/2025

2M KCl Extractable Ammonia N, NH ₃ as N	mg/kg	1	7	<1	<1	1
--	-------	---	----------	----	----	----------

Water Soluble Metals in Soil by ICPOES Method: AN002/AN320 Tested: 21/7/2025

Sulfur, S	mg/kg	1	6	36	1	7
Sulphur as Sulfate, SO ₄	mg/kg	3	18	110	4	21



ANALYTICAL REPORT

PE184089 R0

Parameter	Units	LOR	Sample Number	PE184089.005	PE184089.006	PE184089.007
			Sample Matrix	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SD05-DOWN	SD06-DOWN	SD07-DOWN

Moisture Content Method: AN002 Tested: 15/7/2025

% Moisture	%w/w	1	40.9	33.4	25.6
------------	------	---	------	------	------

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/7/2025

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	0.0002	<0.0001	<0.0001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	0.0009	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	<0.0001	0.0004
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	<0.0001	0.0001
Perfluorotridecanoic acid (PFTTrDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	<0.0001	0.0002	0.0081
Sum PFOS and PFHXS	mg/kg	0.0001	<0.0001	0.0002	0.0081
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorododecane sulfonate (10:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	<0.001	<0.001
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	99	99	100
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	78	78	78
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	100	90	98
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	123	101	106
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	90	116	114
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	95	87	93
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	118	121	103
(13C7-PFUdA) Isotopically Labelled Internal Recovery	%	-	88	128	107
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	59	91	102
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	162	106	134
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	131	76	88
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	113	95	100
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	103	106	95
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	84	90	107
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	90	78	80
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	76	81	83
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	49	82	109
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	144	189	209
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	151	124	107
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	117	77	115
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	134	142	140
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	139	112	120
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	83	64	111



ANALYTICAL REPORT

PE184089 R0

		Sample Number	PE184089.005	PE184089.006	PE184089.007
		Sample Matrix	Sediment	Sediment	Sediment
		Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025
		Sample Name	SD05-DOWN	SD06-DOWN	SD07-DOWN
Parameter	Units	LOR			

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/7/2025 (continued)

(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	34	40	60
--	---	---	----	----	----

USEPA 8260B Volatile Organic Compounds in Solids/Soils Method: USEPA 8260 B Tested: 16/7/2025

m&p-Xylenes	mg/kg	0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.5	<0.5	<0.5	<0.5

Monocyclic Aromatic Hydrocarbons

Benzene	mg/kg	0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1
o-Xylenes	mg/kg	0.1	<0.1	<0.1	<0.1

Polycyclic Aromatic Hydrocarbons

Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	<0.1
-------------------	-------	-----	------	------	------



ANALYTICAL REPORT

PE184089 R0

Parameter	Units	LOR	Sample Number	PE184089.005	PE184089.006	PE184089.007
			Sample Matrix	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SD05-DOWN	SD06-DOWN	SD07-DOWN

USEPA 8260B Volatile Organic Compounds in Solids/Soils **Method: USEPA 8260 B** **Tested: 16/7/2025** **(continued)**

Surrogates

Toluene-d8 (surrogate)	%	-	98	93	90
------------------------	---	---	-----------	-----------	-----------

Volatile Petroleum Hydrocarbons in soil **Method: MA30-VPH** **Tested: 16/7/2025**

TRH C6-C9 (P&T)	mg/kg	10	<10	<10	<10
TRH C6-C10 (P&T)	mg/kg	10	<10	<10	<10
TRH C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10	<10	<10

TRH in soil MA-30.SL.01 **Method: MA30** **Tested: 16/7/2025**

TRH C10-C14	mg/kg	10	330	72	<10
TRH >C10-C16	mg/kg	10	490	110	<10
TRH>C10-C16 less naphthalene (F2)	mg/kg	10	490	110	<10
TRH >C16-C34 (F3)	mg/kg	20	2500	570	120
TRH C15-C28	mg/kg	20	1500	340	59
TRH C29-C36	mg/kg	20	1600	350	79
Total TRH C10-C36	mg/kg	20	3500	760	140
TRH >C34-C40 (F4)	mg/kg	20	930	230	46
Total TRH C6-C36	mg/kg	20	3500	760	140
Total TRH C6-C40 (F)	mg/kg	20	4000	910	160
TRH >C10-C40 (F)	mg/kg	20	4000	910	160

Field pH for Acid Sulphate Soil **Method: AN104** **Tested: 17/7/2025**

pHf	pH Units	-	7.2	6.6	7.9
pHfox	pH Units	-	4.3	2.4	5.3
Reaction Rate (pHfox)*	No unit	-	Moderate	Moderate	Moderate
pH Difference*	pH Units	-10	2.9	4.2	2.6

TAA (Titrateable Actual Acidity) **Method: AN219** **Tested: 16/7/2025**

pH KCl*	pH Units	-	7.3	5.7	7.9
Titrateable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	<5	20	<5
Titrateable Actual Acidity (TAA) S%w/w	%w/w S	0.01	<0.01	0.03	<0.01
Sulphur (SKCl)	%w/w	0.005	-	-	-

HCl Extractable S, Ca and Mg in Soil/Solids ICP OES **Method: AN014** **Tested: 15/7/2025**

Acid Soluble Sulfur (SHCl)	%w/w	0.005	-	-	-
----------------------------	------	-------	---	---	---



ANALYTICAL REPORT

PE184089 R0

Parameter	Units	LOR	Sample Number	PE184089.005	PE184089.006	PE184089.007
			Sample Matrix	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SD05-DOWN	SD06-DOWN	SD07-DOWN

Chromium Reducible Sulfur (CRS) Method: AN217 Tested: 14/7/2025

Chromium Reducible Sulfur (Scr)	%	0.005	0.005	<0.005	0.006
Chromium Reducible Sulfur (Scr)	moles H+/T	5	<5	<5	<5
Chromium Reducible Sulfur (Scr)	kg H2SO4/T	0.25	<0.25	<0.25	<0.25

Chromium Suite Net Acidity Calculations Method: AN220 Tested: 18/7/2025

s-Net Acidity	%w/w S	0.01	<0.01	<0.01	<0.01
a-Net Acidity	moles H+/T	5	<5	<5	<5
Liming Rate*	kg CaCO3/T	0.1	<0.1	<0.1	<0.1
Verification s-Net Acidity*	%w/w S	0.01	<0.01	<0.01	<0.01
a-Net Acidity without ANCBT*	moles H+/T	5	<5	23	<5
Liming Rate without ANCBT*	kg CaCO3/T	0.1	<0.1	1.7	<0.1

Acid Neutralising Capacity (ANC) Method: AN214 Tested: 15/7/2025

Acid Neutralisation Capacity (ANCBT) as % CaCO ₃	% CaCO ₃	0.1	0.9	0.5	1.1
Acid Neutralisation Capacity (ANCBT) as kg H ₂ SO ₄ /t	kg H ₂ SO ₄ /T	0.1	8.7	5.0	11
Acid Neutralisation Capacity (ANCBT) as acidity units	moles H+/T	5	180	100	230
Acid Neutralisation Capacity (ANCBT) as % S	%w/w S	0.005	0.29	0.16	0.37

Alkalinity in Soil Method: AN002/AN135 Tested: 17/7/2025

Bicarbonate Alkalinity as HCO ₃ in Soil*	mg/kg	25	94	<25	260
Carbonate Alkalinity as CO ₃ in Soil*	mg/kg	25	<25	<25	<25
Hydroxide Alkalinity as OH in Soil*	mg/kg	25	<25	<25	<25
Total Alkalinity as CaCO ₃ in Soil*	mg/kg	25	77	<25	210

Chloride (water extractable) Method: AN274 Tested: 17/7/2025

Chloride (water extractable 1:5)*	mg/kg	5	190	190	90
-----------------------------------	-------	---	------------	------------	-----------

Total Recoverable Elements in Soil by ICPOES Method: AN045/AN320 Tested: 9/7/2025

Arsenic, As	mg/kg	1	1	2	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3
Calcium, Ca	mg/kg	10	3700	1800	4300
Chromium, Cr	mg/kg	0.5	8.4	22	19
Copper, Cu	mg/kg	0.5	7.2	17	12
Lead, Pb	mg/kg	1	15	23	23
Magnesium, Mg	mg/kg	10	1200	1400	750
Nickel, Ni	mg/kg	0.5	3.4	8.9	5.0
Phosphorus, P	mg/kg	10	490	250	410
Potassium, K	mg/kg	10	660	340	270
Sodium, Na	mg/kg	10	390	460	340
Zinc, Zn	mg/kg	2	22	24	42



ANALYTICAL REPORT

PE184089 R0

Parameter	Units	LOR	Sample Number	PE184089.005	PE184089.006	PE184089.007
			Sample Matrix	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	SD05-DOWN	SD06-DOWN	SD07-DOWN

Mercury in Soil Method: AN312 Tested: 9/7/2025

Mercury	mg/kg	0.05	<0.05	<0.05	<0.05
---------	-------	------	-------	-------	-------

Total Oxidised Nitrogen NO_x (Water Extract) in Soil Method: AN002/AN258 Tested: 17/7/2025

Water Soluble Nitrate Nitrogen, NO ₃ as N*	mg/kg	0.025	1.3	1.8	3.5
Water Soluble Nitrate/Nitrite Nitrogen, NO _x as N*	mg/kg	0.025	1.4	1.9	3.6
Water Soluble Nitrite Nitrogen, NO ₂ as N*	mg/kg	0.025	0.090	0.15	0.067
Water Soluble Nitrate as NO ₃ *	mg/kg	4	6	8	16
Water Soluble Nitrite, NO ₂ *	mg/kg	3	<3	<3	<3

Total Kjeldahl Nitrogen and Total Nitrogen in Soil/Sludges Method: AN281 Tested: 14/7/2025

Total Kjeldahl Nitrogen*	mg/kg	5	5400	19000	610
Total Nitrogen*	mg/kg	10	5400	19000	610

Ammonia Nitrogen (soluble) in Soil, sediment or biosolids Method: AN002/AN261 Tested: 15/7/2025

2M KCl Extractable Ammonia N, NH ₃ as N	mg/kg	1	<1	<1	<1
--	-------	---	----	----	----

Water Soluble Metals in Soil by ICPOES Method: AN002/AN320 Tested: 21/7/2025

Sulfur, S	mg/kg	1	17	36	76
Sulphur as Sulfate, SO ₄	mg/kg	3	51	110	230

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.

Acid Neutralising Capacity (ANC) Method: ME-(AU)-[ENV]AN214

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acid Neutralisation Capacity (ANCBT) as % CaCO ₃	LB231879	% CaCO ₃	0.1	<0.1	0%	101%
Acid Neutralisation Capacity (ANCBT) as kg H ₂ SO ₄ /t	LB231879	kg H ₂ SO ₄ /T	0.1	<0.1	0%	NA
Acid Neutralisation Capacity (ANCBT) as acidity units	LB231879	moles H ⁺ /T	5	<5	0%	NA
Acid Neutralisation Capacity (ANCBT) as % S	LB231879	%w/w S	0.005	<0.005	0%	NA

Alkalinity in Soil Method: ME-(AU)-[ENV]AN002/AN135

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Bicarbonate Alkalinity as HCO ₃ in Soil*	LB231959	mg/kg	25	<25		
Carbonate Alkalinity as CO ₃ in Soil*	LB231959	mg/kg	25	<25		
Hydroxide Alkalinity as OH in Soil*	LB231959	mg/kg	25	<25		
Total Alkalinity as CaCO ₃ in Soil*	LB231959	mg/kg	25	<25	2%	NA

Ammonia Nitrogen (soluble) in Soil, sediment or biosolids Method: ME-(AU)-[ENV]AN002/AN261

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
2M KCl Extractable Ammonia N, NH ₃ as N	LB231869	mg/kg	1	<1	0 - 20%	NA

Chloride (water extractable) Method: ME-(AU)-[ENV]AN274

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Chloride (water extractable 1:5)*	LB231968	mg/kg	5	<5	5%	96%

Chromium Reducible Sulfur (CRS) Method: ME-(AU)-[ENV]AN217

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Chromium Reducible Sulfur (Scr)	LB231847	%	0.005	<0.005	14%	108 - 109%
Chromium Reducible Sulfur (Scr)	LB231847	moles H ⁺ /T	5	<5		
Chromium Reducible Sulfur (Scr)	LB231847	kg H ₂ SO ₄ /T	0.25	<0.25		

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.

Field pH for Acid Sulphate Soil Method: ME-(AU)-[ENV]AN104

Parameter	QC Reference	Units	LOR	MB	DUP %RPD
pHf	LB231933	pH Units	-	6.2	0%
pHfox	LB231933	pH Units	-	5.5	1%
Reaction Rate (pHfox)*	LB231933	No unit	-	No	
pH Difference*	LB231933	pH Units	-10	0.7	

Mercury in Soil Method: ME-(AU)-[ENV]AN312

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Mercury	LB231649	mg/kg	0.05	<0.05	0 - 20%	103%	87%	0%

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

Parameter	QC Reference	Units	LOR	DUP %RPD
% Moisture	LB231883	%w/w	1	0 - 6%

TAA (Titratable Actual Acidity) Method: ME-(AU)-[ENV]AN219

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
pH KCl*	LB231900	pH Units	-	5.6	0%	98%
Titratable Actual Acidity (TAA) moles H+/tonne	LB231900	moles H+/T	5	<5	0%	100%
Titratable Actual Acidity (TAA) S%w/w	LB231900	%w/w S	0.01	<0.01	0%	110%

Total Kjeldahl Nitrogen and Total Nitrogen in Soil/Sludges Method: ME-(AU)-[ENV]AN281

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Kjeldahl Nitrogen*	LB231823	mg/kg	5	<5	0%	92%
Total Nitrogen*	LB231823	mg/kg	10	<10		

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.

Total Oxidised Nitrogen NO_x (Water Extract) in Soil Method: ME-(AU)-[ENV]AN002/AN258

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Water Soluble Nitrate Nitrogen, NO ₃ as N*	LB231961	mg/kg	0.025	<0.025		
Water Soluble Nitrate/Nitrite Nitrogen, NO _x as N*	LB231961	mg/kg	0.025	<0.025	16%	102%
Water Soluble Nitrite Nitrogen, NO ₂ as N*	LB231961	mg/kg	0.025	<0.025	0%	98%
Water Soluble Nitrate as NO ₃ *	LB231961	mg/kg	4	<4		
Water Soluble Nitrite, NO ₂ *	LB231961	mg/kg	3	<3	0%	NA

Total Recoverable Elements in Soil by ICPOES Method: ME-(AU)-[ENV]AN045/AN320

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Arsenic, As	LB231649	mg/kg	1	<1	15 - 20%	114%	77%	11%
Cadmium, Cd	LB231649	mg/kg	0.3	<0.3	0%	108%	104%	4%
Calcium, Ca	LB231649	mg/kg	10	<10	21%	104%	149%	70%
Chromium, Cr	LB231649	mg/kg	0.5	<0.5	14%	111%	109%	1%
Copper, Cu	LB231649	mg/kg	0.5	<0.5	10 - 28%	106%	113%	7%
Lead, Pb	LB231649	mg/kg	1	<1	0 - 16%	119%	111%	0%
Magnesium, Mg	LB231649	mg/kg	10	<10	7%	99%	144%	74%
Nickel, Ni	LB231649	mg/kg	0.5	<0.5	5 - 11%	108%	120%	12%
Phosphorus, P	LB231649	mg/kg	10	<10	12%	113%	134%	40%
Potassium, K	LB231649	mg/kg	10	<10	3%	103%	106%	4%
Sodium, Na	LB231649	mg/kg	10	<10	3%	99%	113%	9%
Zinc, Zn	LB231649	mg/kg	2	<2	12 - 55%	105%	136%	31%

Water Soluble Metals in Soil by ICPOES Method: ME-(AU)-[ENV]AN002/AN320

Parameter	QC Reference	Units	LOR	MB	DUP %RPD
Sulfur, S	LB232052	mg/kg	1	<1	0%
Sulphur as Sulfate, SO ₄	LB232052	mg/kg	3	<3	0%

METHOD

METHODOLOGY SUMMARY

AN002	Soil, sediment or biosolids is extracted 1:10 in 2M KCl followed by analysis of the extract for ammonia by method AN261.
AN002/AN135	Alkalinity (and forms of) by Titration: The sample is extracted 1 to 5 in deionised water and the extract titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN002/AN320	Soil sample is extracted in deionised water (1:2 or 1:5) and metals analysed by ICP OES, method AN320/AN321, with results reported on the dried sample basis.
AN014	This method is for the determination of soluble sulfate (SO ₄ -S) by extraction with hydrochloric acid. Sulphides should not react and would normally be expelled. Sulfate as Sulfur is determined by ICP.
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.
AN045	A portion of sample is digested with Nitric acid and Hydrogen Peroxide over time and then with Hydrochloric acid through several heating and cooling cycles. It provides a strong oxidising medium for bringing metal analytes into solution according to USEPA3050, after filtration the solution is presented for analysis on AAS or ICP.
AN045/AN320	Solid sample is digested with HNO ₃ and H ₂ O ₂ and completed with addition of HCl based on USEPA Method 3050. Digest is then analysed by ICP-OES. Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference USEPA3050, USEPA6010C and APHA 3120 B.
AN104	pHF is determined on an extract of approximately 2g of as received sample in approximately 10 mL of deionised water with pH determined after standing 30 minutes.
AN104	pH _{fox} is determined on an extract of approximately 2g of as received sample with a few mLs of 30% hydrogen peroxide (adjusted to pH 4.5 to 5.5) with the extract reaction being rated from slight to extreme, with pH determined after reaction is complete and extract has cooled. Referenced to ASS Laboratory Methods Guidelines, method 23Af-Bf, 2004. 0 No Reaction 1 Slight Reaction 2 Moderate Reaction 3 Strong/High Reaction 4 Extreme/Vigorous Reaction (gas evolution and heat generation)
AN214	Acid Neutralising Capacity (ANC) or Neutralising Value (NV): The crushed or as received sample is reacted with excess normal acid (HCl) and then back titrated with standard sodium hydroxide to determine the acid consumed. The result is expressed as kg H ₂ SO ₄ /tonne or %CaCO ₃ . Based on AS4969-13.
AN217	Dried pulped sample is mixed with acid and chromium metal in a rapid distillation unit to produce hydrogen sulfide (H ₂ S) which is collected and titrated with iodine (I ₂ (aq)) to measure SCR.
AN219	Dried pulped sample is extracted for 4 hours in a 1 M KCl solution. The ratio of sample to solution is 1:40. The extract is titrated for acidity. Calcium, magnesium, and sulfur are determined by ICP-AES.

METHOD

METHODOLOGY SUMMARY

AN220	Chromium Suite: Scheme for the calculation of net acidities and liming rates using a Fineness Factor of 1.5.
AN258	Nitrate and Nitrite by FIA:: In an acidic medium, nitrate is reduced quantitatively to nitrite by cadmium metal. This nitrite plus any original nitrite is determined as an intense red-pink azo dye at 540 nm following diazotisation with sulphanilamide and subsequent coupling with N-(1-naphthyl) ethylenediamine dihydrochloride. Without the cadmium reduction only the original nitrite is determined. Reference APHA 4500-NO3- F.
AN262	Ammonia in solution is reacted with o-phthalaldehyde (OPA) to form a fluorescent compound. The reaction product is detected by a fluorimeter and the response is measured via FIA using a photomultiplier detector . The response is directly proportional to the concentration of ammonia in the sample.
AN274	Chloride by DA following 1:5 or 1:2 DI water extraction: Chloride reacts with mercuric thiocyanate forming a mercuric chloride complex. In the presence of ferric iron, highly coloured ferric thiocyanate is formed which is proportional to the chloride concentration. Results reported on dry sample basis. Reference APHA 4500Cl-
AN281	The sample is heated in the presence of Sulphuric acid, K ₂ SO ₄ and CuSO ₄ for two and half hours using a temperature controlled digestion block. Amino Nitrogen of many organic materials is converted to ammonium ion. Free ammonia also is converted to ammonium. The digest is cooled and placed on the discrete analyser for Ammonia determination.
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
AN320	Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components .
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.
MA-30	This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C₅ to C₄₀. The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions". Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS)
MA30 -VPH	This method is used to quantify Volatile Petroleum Hydrocarbon (VPH) fractions using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5035 (Closed system purge and trap and extraction for volatile organics in soil and solid waste samples.).

METHOD

METHODOLOGY SUMMARY

MA30-VPH

A sample is weighed out, and has surrogates added and is extracted in methanol. This methanol extract is then diluted in water. A stream of helium is passed through a portion of the extracted sample ; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

USEPA 8260B

This method is used to quantify Volatile Organic Compounds using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5035 (Closed system purge and trap and extraction for volatile organics in soil and solid waste samples.).

USEPA 8260B

A sample is weighed out, and has surrogates added and is extracted in methanol. This methanol extract is then diluted in water. A stream of helium is passed through a portion of the extracted sample ; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

PE184089 R0

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 7

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

SGS Reference **PE184089 R0**
Date Received 04 Jul 2025
Date Reported 21 Jul 2025

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	Alkalinity in Soil	7 items
	Ammonia Nitrogen (soluble) in Soil, sediment or biosolids	7 items
	Chloride (water extractable)	7 items
	Total Oxidised Nitrogen NOx (Water Extract) in Soil	7 items
Surrogate	Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level	11 items
Duplicate	Total Recoverable Elements in Soil by ICPOES	1 item
Matrix Spike	Total Recoverable Elements in Soil by ICPOES	4 items
MSD	Total Recoverable Elements in Soil by ICPOES	3 items

SAMPLE SUMMARY

Date documentation received	4/7/2025	Sample counts by matrix	7 Sediment
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17.4-18.9°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4		

SGS Australia Pty Ltd
ABN 44 000 964 278

Environment, Health and
Safety

28 Reid Rd
PO Box 32
Perth Airport WA 6105
Welshpool WA 6983

Australia t +61 8 9373 3500
Australia f +61 8 9373 3556

www.sgs.com.au



HOLDING TIME SUMMARY

PE184089 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 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.

Acid Neutralising Capacity (ANC)

Method: ME-(AU)-ENVJAN214

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231879	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	18 Jul 2025
SD02-DOWN	PE184089.002	LB231879	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	18 Jul 2025
SD03-DOWN	PE184089.003	LB231879	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	18 Jul 2025
SD04-DOWN	PE184089.004	LB231879	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	18 Jul 2025
SD05-DOWN	PE184089.005	LB231879	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	18 Jul 2025
SD06-DOWN	PE184089.006	LB231879	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	18 Jul 2025
SD07-DOWN	PE184089.007	LB231879	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	18 Jul 2025

Alkalinity in Soil

Method: ME-(AU)-ENVJAN002/AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231959	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	31 Jul 2025	17 Jul 2025
SD02-DOWN	PE184089.002	LB231959	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	31 Jul 2025	17 Jul 2025
SD03-DOWN	PE184089.003	LB231959	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	31 Jul 2025	17 Jul 2025
SD04-DOWN	PE184089.004	LB231959	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	31 Jul 2025	17 Jul 2025
SD05-DOWN	PE184089.005	LB231959	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	31 Jul 2025	17 Jul 2025
SD06-DOWN	PE184089.006	LB231959	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	31 Jul 2025	17 Jul 2025
SD07-DOWN	PE184089.007	LB231959	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	31 Jul 2025	17 Jul 2025

Ammonia Nitrogen (soluble) in Soil, sediment or biosolids

Method: ME-(AU)-ENVJAN002/AN261

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231869	03 Jul 2025	04 Jul 2025	10 Jul 2025	15 Jul 2025†	17 Jul 2025	15 Jul 2025
SD02-DOWN	PE184089.002	LB231869	03 Jul 2025	04 Jul 2025	10 Jul 2025	15 Jul 2025†	17 Jul 2025	15 Jul 2025
SD03-DOWN	PE184089.003	LB231869	03 Jul 2025	04 Jul 2025	10 Jul 2025	15 Jul 2025†	17 Jul 2025	15 Jul 2025
SD04-DOWN	PE184089.004	LB231869	03 Jul 2025	04 Jul 2025	10 Jul 2025	15 Jul 2025†	17 Jul 2025	15 Jul 2025
SD05-DOWN	PE184089.005	LB231869	03 Jul 2025	04 Jul 2025	10 Jul 2025	15 Jul 2025†	17 Jul 2025	15 Jul 2025
SD06-DOWN	PE184089.006	LB231869	03 Jul 2025	04 Jul 2025	10 Jul 2025	15 Jul 2025†	17 Jul 2025	15 Jul 2025
SD07-DOWN	PE184089.007	LB231869	03 Jul 2025	04 Jul 2025	10 Jul 2025	15 Jul 2025†	17 Jul 2025	15 Jul 2025

Chloride (water extractable)

Method: ME-(AU)-ENVJAN274

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231968	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	14 Aug 2025	18 Jul 2025
SD02-DOWN	PE184089.002	LB231968	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	14 Aug 2025	18 Jul 2025
SD03-DOWN	PE184089.003	LB231968	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	14 Aug 2025	18 Jul 2025
SD04-DOWN	PE184089.004	LB231968	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	14 Aug 2025	18 Jul 2025
SD05-DOWN	PE184089.005	LB231968	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	14 Aug 2025	18 Jul 2025
SD06-DOWN	PE184089.006	LB231968	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	14 Aug 2025	18 Jul 2025
SD07-DOWN	PE184089.007	LB231968	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	14 Aug 2025	18 Jul 2025

Chromium Reducible Sulfur (CRS)

Method: ME-(AU)-ENVJAN217

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231847	03 Jul 2025	04 Jul 2025	01 Oct 2025	14 Jul 2025	01 Oct 2025	16 Jul 2025
SD02-DOWN	PE184089.002	LB231847	03 Jul 2025	04 Jul 2025	01 Oct 2025	14 Jul 2025	01 Oct 2025	16 Jul 2025
SD03-DOWN	PE184089.003	LB231847	03 Jul 2025	04 Jul 2025	01 Oct 2025	14 Jul 2025	01 Oct 2025	16 Jul 2025
SD04-DOWN	PE184089.004	LB231847	03 Jul 2025	04 Jul 2025	01 Oct 2025	14 Jul 2025	01 Oct 2025	16 Jul 2025
SD05-DOWN	PE184089.005	LB231847	03 Jul 2025	04 Jul 2025	01 Oct 2025	14 Jul 2025	01 Oct 2025	16 Jul 2025
SD06-DOWN	PE184089.006	LB231847	03 Jul 2025	04 Jul 2025	01 Oct 2025	14 Jul 2025	01 Oct 2025	16 Jul 2025
SD07-DOWN	PE184089.007	LB231847	03 Jul 2025	04 Jul 2025	01 Oct 2025	14 Jul 2025	01 Oct 2025	16 Jul 2025

Field pH for Acid Sulphate Soil

Method: ME-(AU)-ENVJAN104

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231933	03 Jul 2025	04 Jul 2025	31 Jul 2025	17 Jul 2025	31 Jul 2025	17 Jul 2025
SD02-DOWN	PE184089.002	LB231933	03 Jul 2025	04 Jul 2025	31 Jul 2025	17 Jul 2025	31 Jul 2025	17 Jul 2025
SD03-DOWN	PE184089.003	LB231933	03 Jul 2025	04 Jul 2025	31 Jul 2025	17 Jul 2025	31 Jul 2025	17 Jul 2025
SD04-DOWN	PE184089.004	LB231933	03 Jul 2025	04 Jul 2025	31 Jul 2025	17 Jul 2025	31 Jul 2025	17 Jul 2025
SD05-DOWN	PE184089.005	LB231933	03 Jul 2025	04 Jul 2025	31 Jul 2025	17 Jul 2025	31 Jul 2025	17 Jul 2025
SD06-DOWN	PE184089.006	LB231933	03 Jul 2025	04 Jul 2025	31 Jul 2025	17 Jul 2025	31 Jul 2025	17 Jul 2025
SD07-DOWN	PE184089.007	LB231933	03 Jul 2025	04 Jul 2025	31 Jul 2025	17 Jul 2025	31 Jul 2025	17 Jul 2025

HCl Extractable S, Ca and Mg in Soil/Solids ICP OES

Method: ME-(AU)-ENVJAN014

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231880	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	15 Jul 2025
SD02-DOWN	PE184089.002	LB231880	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	15 Jul 2025
SD03-DOWN	PE184089.003	LB231880	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	15 Jul 2025



HOLDING TIME SUMMARY

PE184089 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 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.

HCl Extractable S, Ca and Mg in Soil/Solids ICP OES (continued)

Method: ME-(AU)-[ENV]AN014

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD04-DOWN	PE184089.004	LB231880	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	15 Jul 2025
SD05-DOWN	PE184089.005	LB231880	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	15 Jul 2025
SD06-DOWN	PE184089.006	LB231880	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	15 Jul 2025
SD07-DOWN	PE184089.007	LB231880	03 Jul 2025	04 Jul 2025	01 Oct 2025	15 Jul 2025	01 Oct 2025	15 Jul 2025

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231649	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	11 Jul 2025
SD02-DOWN	PE184089.002	LB231649	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	11 Jul 2025
SD03-DOWN	PE184089.003	LB231649	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	11 Jul 2025
SD04-DOWN	PE184089.004	LB231649	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	11 Jul 2025
SD05-DOWN	PE184089.005	LB231649	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	11 Jul 2025
SD06-DOWN	PE184089.006	LB231649	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	11 Jul 2025
SD07-DOWN	PE184089.007	LB231649	03 Jul 2025	04 Jul 2025	31 Jul 2025	09 Jul 2025	31 Jul 2025	11 Jul 2025

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231883	03 Jul 2025	04 Jul 2025	17 Jul 2025	15 Jul 2025	20 Jul 2025	17 Jul 2025
SD02-DOWN	PE184089.002	LB231883	03 Jul 2025	04 Jul 2025	17 Jul 2025	15 Jul 2025	20 Jul 2025	17 Jul 2025
SD03-DOWN	PE184089.003	LB231883	03 Jul 2025	04 Jul 2025	17 Jul 2025	15 Jul 2025	20 Jul 2025	17 Jul 2025
SD04-DOWN	PE184089.004	LB231883	03 Jul 2025	04 Jul 2025	17 Jul 2025	15 Jul 2025	20 Jul 2025	17 Jul 2025
SD05-DOWN	PE184089.005	LB231883	03 Jul 2025	04 Jul 2025	17 Jul 2025	15 Jul 2025	20 Jul 2025	17 Jul 2025
SD06-DOWN	PE184089.006	LB231883	03 Jul 2025	04 Jul 2025	17 Jul 2025	15 Jul 2025	20 Jul 2025	17 Jul 2025
SD07-DOWN	PE184089.007	LB231883	03 Jul 2025	04 Jul 2025	17 Jul 2025	15 Jul 2025	20 Jul 2025	17 Jul 2025

TAA (Titratable Actual Acidity)

Method: ME-(AU)-[ENV]AN219

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231900	03 Jul 2025	04 Jul 2025	01 Oct 2025	16 Jul 2025	01 Oct 2025	16 Jul 2025
SD02-DOWN	PE184089.002	LB231900	03 Jul 2025	04 Jul 2025	01 Oct 2025	16 Jul 2025	01 Oct 2025	16 Jul 2025
SD03-DOWN	PE184089.003	LB231900	03 Jul 2025	04 Jul 2025	01 Oct 2025	16 Jul 2025	01 Oct 2025	16 Jul 2025
SD04-DOWN	PE184089.004	LB231900	03 Jul 2025	04 Jul 2025	01 Oct 2025	16 Jul 2025	01 Oct 2025	16 Jul 2025
SD05-DOWN	PE184089.005	LB231900	03 Jul 2025	04 Jul 2025	01 Oct 2025	16 Jul 2025	01 Oct 2025	16 Jul 2025
SD06-DOWN	PE184089.006	LB231900	03 Jul 2025	04 Jul 2025	01 Oct 2025	16 Jul 2025	01 Oct 2025	16 Jul 2025
SD07-DOWN	PE184089.007	LB231900	03 Jul 2025	04 Jul 2025	01 Oct 2025	16 Jul 2025	01 Oct 2025	16 Jul 2025

Total Kjeldahl Nitrogen and Total Nitrogen in Soil/Sludges

Method: ME-(AU)-[ENV]AN281

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231823	03 Jul 2025	04 Jul 2025	31 Jul 2025	14 Jul 2025	31 Jul 2025	18 Jul 2025
SD02-DOWN	PE184089.002	LB231823	03 Jul 2025	04 Jul 2025	31 Jul 2025	14 Jul 2025	31 Jul 2025	18 Jul 2025
SD03-DOWN	PE184089.003	LB231823	03 Jul 2025	04 Jul 2025	31 Jul 2025	14 Jul 2025	31 Jul 2025	18 Jul 2025
SD04-DOWN	PE184089.004	LB231823	03 Jul 2025	04 Jul 2025	31 Jul 2025	14 Jul 2025	31 Jul 2025	18 Jul 2025
SD05-DOWN	PE184089.005	LB231823	03 Jul 2025	04 Jul 2025	31 Jul 2025	14 Jul 2025	31 Jul 2025	18 Jul 2025
SD06-DOWN	PE184089.006	LB231823	03 Jul 2025	04 Jul 2025	31 Jul 2025	14 Jul 2025	31 Jul 2025	18 Jul 2025
SD07-DOWN	PE184089.007	LB231823	03 Jul 2025	04 Jul 2025	31 Jul 2025	14 Jul 2025	31 Jul 2025	18 Jul 2025

Total Oxidised Nitrogen NOx (Water Extract) in Soil

Method: ME-(AU)-[ENV]AN002/AN258

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231961	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	21 Jul 2025	17 Jul 2025
SD02-DOWN	PE184089.002	LB231961	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	21 Jul 2025	17 Jul 2025
SD03-DOWN	PE184089.003	LB231961	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	21 Jul 2025	17 Jul 2025
SD04-DOWN	PE184089.004	LB231961	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	21 Jul 2025	17 Jul 2025
SD05-DOWN	PE184089.005	LB231961	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	21 Jul 2025	17 Jul 2025
SD06-DOWN	PE184089.006	LB231961	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	21 Jul 2025	17 Jul 2025
SD07-DOWN	PE184089.007	LB231961	03 Jul 2025	04 Jul 2025	10 Jul 2025	17 Jul 2025†	21 Jul 2025	17 Jul 2025

Total Recoverable Elements in Soil by ICPOES

Method: ME-(AU)-[ENV]AN045/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB231649	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	15 Jul 2025
SD02-DOWN	PE184089.002	LB231649	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	18 Jul 2025
SD03-DOWN	PE184089.003	LB231649	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	18 Jul 2025
SD04-DOWN	PE184089.004	LB231649	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	18 Jul 2025
SD05-DOWN	PE184089.005	LB231649	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	18 Jul 2025
SD06-DOWN	PE184089.006	LB231649	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	18 Jul 2025



HOLDING TIME SUMMARY

PE184089 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 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.

Total Recoverable Elements in Soil by ICPOES (continued)

Method: ME-(AU)-[ENV]AN045/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD07-DOWN	PE184089.007	LB231649	03 Jul 2025	04 Jul 2025	30 Dec 2025	09 Jul 2025	30 Dec 2025	18 Jul 2025

Water Soluble Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN002/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD01-DOWN	PE184089.001	LB232052	03 Jul 2025	04 Jul 2025	30 Dec 2025	21 Jul 2025	30 Dec 2025	21 Jul 2025
SD02-DOWN	PE184089.002	LB232052	03 Jul 2025	04 Jul 2025	30 Dec 2025	21 Jul 2025	30 Dec 2025	21 Jul 2025
SD03-DOWN	PE184089.003	LB232052	03 Jul 2025	04 Jul 2025	30 Dec 2025	21 Jul 2025	30 Dec 2025	21 Jul 2025
SD04-DOWN	PE184089.004	LB232052	03 Jul 2025	04 Jul 2025	30 Dec 2025	21 Jul 2025	30 Dec 2025	21 Jul 2025
SD05-DOWN	PE184089.005	LB232052	03 Jul 2025	04 Jul 2025	30 Dec 2025	21 Jul 2025	30 Dec 2025	21 Jul 2025
SD06-DOWN	PE184089.006	LB232052	03 Jul 2025	04 Jul 2025	30 Dec 2025	21 Jul 2025	30 Dec 2025	21 Jul 2025
SD07-DOWN	PE184089.007	LB232052	03 Jul 2025	04 Jul 2025	30 Dec 2025	21 Jul 2025	30 Dec 2025	21 Jul 2025



SURROGATES

PE184089 R0

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- Low level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 130%	60
	SD02-DOWN	PE184089.002	%	10 - 130%	80
	SD03-DOWN	PE184089.003	%	10 - 130%	73
	SD04-DOWN	PE184089.004	%	10 - 130%	132 ↑
	SD05-DOWN	PE184089.005	%	10 - 130%	162 ↑
	SD06-DOWN	PE184089.006	%	10 - 130%	106
	SD07-DOWN	PE184089.007	%	10 - 130%	134 ↑
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	76
	SD02-DOWN	PE184089.002	%	10 - 150%	59
	SD03-DOWN	PE184089.003	%	10 - 150%	83
	SD04-DOWN	PE184089.004	%	10 - 150%	85
	SD05-DOWN	PE184089.005	%	10 - 150%	90
	SD06-DOWN	PE184089.006	%	10 - 150%	78
	SD07-DOWN	PE184089.007	%	10 - 150%	80
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	71
	SD02-DOWN	PE184089.002	%	10 - 150%	52
	SD03-DOWN	PE184089.003	%	10 - 150%	83
	SD04-DOWN	PE184089.004	%	10 - 150%	56
	SD05-DOWN	PE184089.005	%	10 - 150%	76
	SD06-DOWN	PE184089.006	%	10 - 150%	81
	SD07-DOWN	PE184089.007	%	10 - 150%	83
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	35
	SD02-DOWN	PE184089.002	%	10 - 150%	46
	SD03-DOWN	PE184089.003	%	10 - 150%	89
	SD04-DOWN	PE184089.004	%	10 - 150%	31
	SD05-DOWN	PE184089.005	%	10 - 150%	49
	SD06-DOWN	PE184089.006	%	10 - 150%	82
	SD07-DOWN	PE184089.007	%	10 - 150%	109
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	92
	SD02-DOWN	PE184089.002	%	10 - 150%	74
	SD03-DOWN	PE184089.003	%	10 - 150%	69
	SD04-DOWN	PE184089.004	%	10 - 150%	61
	SD05-DOWN	PE184089.005	%	10 - 150%	59
	SD06-DOWN	PE184089.006	%	10 - 150%	91
	SD07-DOWN	PE184089.007	%	10 - 150%	102
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	26
	SD02-DOWN	PE184089.002	%	10 - 150%	48
	SD03-DOWN	PE184089.003	%	10 - 150%	36
	SD04-DOWN	PE184089.004	%	10 - 150%	86
	SD05-DOWN	PE184089.005	%	10 - 150%	131
	SD06-DOWN	PE184089.006	%	10 - 150%	76
	SD07-DOWN	PE184089.007	%	10 - 150%	88
(13C3-PFBFS) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	114
	SD02-DOWN	PE184089.002	%	10 - 150%	92
	SD03-DOWN	PE184089.003	%	10 - 150%	110
	SD04-DOWN	PE184089.004	%	10 - 150%	119
	SD05-DOWN	PE184089.005	%	10 - 150%	113
	SD06-DOWN	PE184089.006	%	10 - 150%	95
	SD07-DOWN	PE184089.007	%	10 - 150%	100
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	102
	SD02-DOWN	PE184089.002	%	10 - 150%	89
	SD03-DOWN	PE184089.003	%	10 - 150%	101
	SD04-DOWN	PE184089.004	%	10 - 150%	115
	SD05-DOWN	PE184089.005	%	10 - 150%	103
	SD06-DOWN	PE184089.006	%	10 - 150%	106
	SD07-DOWN	PE184089.007	%	10 - 150%	95
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	104
	SD02-DOWN	PE184089.002	%	10 - 150%	95
	SD03-DOWN	PE184089.003	%	10 - 150%	104
	SD04-DOWN	PE184089.004	%	10 - 150%	115
	SD05-DOWN	PE184089.005	%	10 - 150%	90



SURROGATES

PE184089 R0

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- Low level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	SD06-DOWN	PE184089.006	%	10 - 150%	116
	SD07-DOWN	PE184089.007	%	10 - 150%	114
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	98
	SD02-DOWN	PE184089.002	%	10 - 150%	100
	SD03-DOWN	PE184089.003	%	10 - 150%	99
	SD04-DOWN	PE184089.004	%	10 - 150%	100
	SD05-DOWN	PE184089.005	%	10 - 150%	99
	SD06-DOWN	PE184089.006	%	10 - 150%	99
	SD07-DOWN	PE184089.007	%	10 - 150%	100
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	100
	SD02-DOWN	PE184089.002	%	10 - 150%	105
	SD03-DOWN	PE184089.003	%	10 - 150%	100
	SD04-DOWN	PE184089.004	%	10 - 150%	128
	SD05-DOWN	PE184089.005	%	10 - 150%	123
	SD06-DOWN	PE184089.006	%	10 - 150%	101
	SD07-DOWN	PE184089.007	%	10 - 150%	106
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	90
	SD02-DOWN	PE184089.002	%	10 - 150%	91
	SD03-DOWN	PE184089.003	%	10 - 150%	90
	SD04-DOWN	PE184089.004	%	10 - 150%	126
	SD05-DOWN	PE184089.005	%	10 - 150%	100
	SD06-DOWN	PE184089.006	%	10 - 150%	90
	SD07-DOWN	PE184089.007	%	10 - 150%	98
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	70
	SD02-DOWN	PE184089.002	%	10 - 150%	82
	SD03-DOWN	PE184089.003	%	10 - 150%	76
	SD04-DOWN	PE184089.004	%	10 - 150%	74
	SD05-DOWN	PE184089.005	%	10 - 150%	78
	SD06-DOWN	PE184089.006	%	10 - 150%	78
	SD07-DOWN	PE184089.007	%	10 - 150%	78
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	129
	SD02-DOWN	PE184089.002	%	10 - 150%	114
	SD03-DOWN	PE184089.003	%	10 - 150%	82
	SD04-DOWN	PE184089.004	%	10 - 150%	112
	SD05-DOWN	PE184089.005	%	10 - 150%	118
	SD06-DOWN	PE184089.006	%	10 - 150%	121
	SD07-DOWN	PE184089.007	%	10 - 150%	103
(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	98
	SD02-DOWN	PE184089.002	%	10 - 150%	100
	SD03-DOWN	PE184089.003	%	10 - 150%	81
	SD04-DOWN	PE184089.004	%	10 - 150%	83
	SD05-DOWN	PE184089.005	%	10 - 150%	88
	SD06-DOWN	PE184089.006	%	10 - 150%	128
	SD07-DOWN	PE184089.007	%	10 - 150%	107
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	113
	SD02-DOWN	PE184089.002	%	10 - 150%	104
	SD03-DOWN	PE184089.003	%	10 - 150%	96
	SD04-DOWN	PE184089.004	%	10 - 150%	98
	SD05-DOWN	PE184089.005	%	10 - 150%	84
	SD06-DOWN	PE184089.006	%	10 - 150%	90
	SD07-DOWN	PE184089.007	%	10 - 150%	107
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	149
	SD02-DOWN	PE184089.002	%	10 - 150%	192 †
	SD03-DOWN	PE184089.003	%	10 - 150%	247 †
	SD04-DOWN	PE184089.004	%	10 - 150%	146
	SD05-DOWN	PE184089.005	%	10 - 150%	144
	SD06-DOWN	PE184089.006	%	10 - 150%	189 †
	SD07-DOWN	PE184089.007	%	10 - 150%	209 †
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	79
	SD02-DOWN	PE184089.002	%	10 - 150%	101
	SD03-DOWN	PE184089.003	%	10 - 150%	84

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- Low level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	SD04-DOWN	PE184089.004	%	10 - 150%	82
	SD05-DOWN	PE184089.005	%	10 - 150%	95
	SD06-DOWN	PE184089.006	%	10 - 150%	87
	SD07-DOWN	PE184089.007	%	10 - 150%	93
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	181 ↑
	SD02-DOWN	PE184089.002	%	10 - 150%	104
	SD03-DOWN	PE184089.003	%	10 - 150%	131
	SD04-DOWN	PE184089.004	%	10 - 150%	142
	SD05-DOWN	PE184089.005	%	10 - 150%	151 ↑
	SD06-DOWN	PE184089.006	%	10 - 150%	124
	SD07-DOWN	PE184089.007	%	10 - 150%	107
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	68
	SD02-DOWN	PE184089.002	%	10 - 150%	68
	SD03-DOWN	PE184089.003	%	10 - 150%	88
	SD04-DOWN	PE184089.004	%	10 - 150%	78
	SD05-DOWN	PE184089.005	%	10 - 150%	83
	SD06-DOWN	PE184089.006	%	10 - 150%	64
	SD07-DOWN	PE184089.007	%	10 - 150%	111
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	105
	SD02-DOWN	PE184089.002	%	10 - 150%	87
	SD03-DOWN	PE184089.003	%	10 - 150%	79
	SD04-DOWN	PE184089.004	%	10 - 150%	129
	SD05-DOWN	PE184089.005	%	10 - 150%	117
	SD06-DOWN	PE184089.006	%	10 - 150%	77
	SD07-DOWN	PE184089.007	%	10 - 150%	115
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	34
	SD02-DOWN	PE184089.002	%	10 - 150%	41
	SD03-DOWN	PE184089.003	%	10 - 150%	57
	SD04-DOWN	PE184089.004	%	10 - 150%	27
	SD05-DOWN	PE184089.005	%	10 - 150%	34
	SD06-DOWN	PE184089.006	%	10 - 150%	40
	SD07-DOWN	PE184089.007	%	10 - 150%	60
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	138
	SD02-DOWN	PE184089.002	%	10 - 150%	118
	SD03-DOWN	PE184089.003	%	10 - 150%	129
	SD04-DOWN	PE184089.004	%	10 - 150%	179 ↑
	SD05-DOWN	PE184089.005	%	10 - 150%	134
	SD06-DOWN	PE184089.006	%	10 - 150%	142
	SD07-DOWN	PE184089.007	%	10 - 150%	140
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	SD01-DOWN	PE184089.001	%	10 - 150%	118
	SD02-DOWN	PE184089.002	%	10 - 150%	69
	SD03-DOWN	PE184089.003	%	10 - 150%	82
	SD04-DOWN	PE184089.004	%	10 - 150%	160 ↑
	SD05-DOWN	PE184089.005	%	10 - 150%	139
	SD06-DOWN	PE184089.006	%	10 - 150%	112
	SD07-DOWN	PE184089.007	%	10 - 150%	120

USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Toluene-d8 (surrogate)	SD01-DOWN	PE184089.001	%	60 - 130%	91
	SD02-DOWN	PE184089.002	%	60 - 130%	95
	SD03-DOWN	PE184089.003	%	60 - 130%	92
	SD04-DOWN	PE184089.004	%	60 - 130%	93
	SD05-DOWN	PE184089.005	%	60 - 130%	98
	SD06-DOWN	PE184089.006	%	60 - 130%	93
	SD07-DOWN	PE184089.007	%	60 - 130%	90



METHOD BLANKS

PE184089 R0

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.

Chloride (water extractable)

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result
LB231968.001	Chloride (water extractable 1:5)*	mg/kg	5	<5

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Sample Number	Parameter	Units	LOR	Result
LB231933.001	pHf	pH Units	-	6.2
	pHfox	pH Units	-	5.5

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB231649.001	Mercury	mg/kg	0.05	<0.05

Total Kjeldahl Nitrogen and Total Nitrogen in Soil/Sludges

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result
LB231823.001	Total Kjeldahl Nitrogen*	mg/kg	5	<5

Total Oxidised Nitrogen NOx (Water Extract) in Soil

Method: ME-(AU)-[ENV]AN002/AN258

Sample Number	Parameter	Units	LOR	Result
LB231961.001	Water Soluble Nitrate/Nitrite Nitrogen, NOx as N*	mg/kg	0.025	<0.025
	Water Soluble Nitrite Nitrogen, NO ₂ as N*	mg/kg	0.025	<0.025

Total Recoverable Elements in Soil by ICPOES

Method: ME-(AU)-[ENV]AN045/AN320

Sample Number	Parameter	Units	LOR	Result
LB231649.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Calcium, Ca	mg/kg	10	<10
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Magnesium, Mg	mg/kg	10	<10
	Nickel, Ni	mg/kg	0.5	<0.5
	Phosphorus, P	mg/kg	10	<10
	Potassium, K	mg/kg	10	<10
	Sodium, Na	mg/kg	10	<10
	Zinc, Zn	mg/kg	2	<2

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

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: $MAD = 100 \times \frac{SDL}{Mean} + LR$

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.

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.

Acid Neutralising Capacity (ANC)

Method: ME-(AU)-[ENV]AN214

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.007	LB231879.012	Acid Neutralisation Capacity (ANCBT) as % CaCO ₃	% CaCO ₃	0.1	1.1	1.1	34	0
		Acid Neutralisation Capacity (ANCBT) as kg H ₂ SO ₄ /t	kg H ₂ SO ₄ /t	0.1	11	11	34	0
		Acid Neutralisation Capacity (ANCBT) as acidity units	moles H ⁺ /T	5	230	230	31	0
		Acid Neutralisation Capacity (ANCBT) as % S	%w/w S	0.005	0.37	0.37	31	0

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.007	LB231959.010	Total Alkalinity as CaCO ₃ in Soil*	mg/kg	25	210	210	27	2

Ammonia Nitrogen (soluble) in Soil, sediment or biosolids

Method: ME-(AU)-[ENV]AN002/AN261

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.001	LB231869.004	2M KCl Extractable Ammonia N, NH ₃ as N	mg/kg	1	7	8	43	16
PE184228.001	LB231869.012	2M KCl Extractable Ammonia N, NH ₃ as N	mg/kg	1	<1	<1	197	0
PE184323.001	LB231869.019	2M KCl Extractable Ammonia N, NH ₃ as N	mg/kg	1	130	160	31	20

Chloride (water extractable)

Method: ME-(AU)-[ENV]AN274

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.007	LB231968.011	Chloride (water extractable 1:5)*	mg/kg	5	90	86	36	5

Chromium Reducible Sulfur (CRS)

Method: ME-(AU)-[ENV]AN217

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.007	LB231847.011	Chromium Reducible Sulfur (Scr)	%	0.005	0.006	0.005	119	14

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.007	LB231933.009	pHf	pH Units	-	7.9	7.9	30	0
		pHfox	pH Units	-	5.3	5.4	30	1

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.001	LB231649.004	Mercury	mg/kg	0.05	0.08	0.06	100	20
PE184124.001	LB231649.014	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 %
PE184089.001	LB231883.002	% Moisture	%w/w	1	37.5	39.7	33	6
PE184361.005	LB231883.016	% Moisture	%w/w	1	0	0	200	0

TAA (Titratable Actual Acidity)

Method: ME-(AU)-[ENV]AN219

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.007	LB231900.010	pH KCl*	pH Units	-	7.9	8.0	30	0
		Titratable Actual Acidity (TAA) moles H ⁺ /tonne	moles H ⁺ /T	5	<5	<5	200	0
		Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	<0.01	<0.01	200	0

Total Kjeldahl Nitrogen and Total Nitrogen in Soil/Sludges

Method: ME-(AU)-[ENV]AN281

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184320.006	LB231823.011	Total Kjeldahl Nitrogen*	mg/kg	5	17	<5	200	0

Total Oxidised Nitrogen NO_x (Water Extract) in Soil

Method: ME-(AU)-[ENV]AN002/AN258

Original	Duplicate	Parameter	Units	LOR
----------	-----------	-----------	-------	-----

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.

Total Oxidised Nitrogen NOx (Water Extract) in Soil (continued)

Method: ME-(AU)-[ENV]AN002/AN258

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.007	LB231961.011	Water Soluble Nitrate/Nitrite Nitrogen, NOx as N*	mg/kg	0.025	3.6	4.2	56	16
		Water Soluble Nitrite Nitrogen, NO ₂ as N*	mg/kg	0.025	0.067	0.097	200	0
		Water Soluble Nitrite, NO ₂ *	mg/kg	3	<3	<3	200	0

Total Recoverable Elements in Soil by ICPOES

Method: ME-(AU)-[ENV]AN045/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.001	LB231649.004	Arsenic, As	mg/kg	1	1	<1	127	20
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	153	0
		Calcium, Ca	mg/kg	10	1700	2100	30	21
		Chromium, Cr	mg/kg	0.5	17	15	33	14
		Copper, Cu	mg/kg	0.5	4.5	6.0	39	28
		Lead, Pb	mg/kg	1	13	11	38	16
		Magnesium, Mg	mg/kg	10	2000	2200	30	7
		Nickel, Ni	mg/kg	0.5	4.6	4.9	40	5
		Phosphorus, P	mg/kg	10	200	230	35	12
		Potassium, K	mg/kg	10	330	340	33	3
		Sodium, Na	mg/kg	10	300	290	33	3
		Zinc, Zn	mg/kg	2	26	45	36	55 @
PE184124.001	LB231649.014	Arsenic, As	mg/kg	1	3	4	57	15
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Copper, Cu	mg/kg	0.5	43	48	31	10
		Lead, Pb	mg/kg	1	6	6	48	0
		Nickel, Ni	mg/kg	0.5	11	13	34	11
		Zinc, Zn	mg/kg	2	47	41	35	12

Water Soluble Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN002/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.007	LB232052.009	Sulfur, S	mg/kg	1	76	76	16	0
		Sulphur as Sulfate, SO ₄	mg/kg	3	230	230	16	0



LABORATORY CONTROL SAMPLES

PE184089 R0

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.

Acid Neutralising Capacity (ANC)

Method: ME-(AU)-[ENV]AN214

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231879.002	Acid Neutralisation Capacity (ANCBT) as % CaCO ₃	% CaCO ₃	0.1	100	100	85 - 115	101

Chloride (water extractable)

Method: ME-(AU)-[ENV]AN274

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231968.002	Chloride (water extractable 1:5)*	mg/kg	5	19	20	85 - 115	96

Chromium Reducible Sulfur (CRS)

Method: ME-(AU)-[ENV]AN217

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231847.002	Chromium Reducible Sulfur (Scr)	%	0.005	0.63	0.583	85 - 115	108
LB231847.003	Chromium Reducible Sulfur (Scr)	%	0.005	0.64	0.583	85 - 115	109

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231649.002	Mercury	mg/kg	0.05	0.34	0.333	70 - 130	103

TAA (Titrate Actual Acidity)

Method: ME-(AU)-[ENV]AN219

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231900.002	pH KCl*	pH Units	-	3.6	3.68	90 - 110	98
	Titrate Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	59	59.32	86 - 114	100
	Titrate Actual Acidity (TAA) S%/w	%w/w S	0.01	0.10	0.087	80 - 120	110

Total Kjeldahl Nitrogen and Total Nitrogen in Soil/Sludges

Method: ME-(AU)-[ENV]AN281

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231823.002	Total Kjeldahl Nitrogen*	mg/kg	5	23	25	80 - 120	92

Total Oxidised Nitrogen NO_x (Water Extract) in Soil

Method: ME-(AU)-[ENV]AN002/AN258

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231961.002	Water Soluble Nitrate/Nitrite Nitrogen, NO _x as N*	mg/kg	0.025	4.1	4	85 - 115	102
	Water Soluble Nitrite Nitrogen, NO ₂ as N*	mg/kg	0.025	3.9	4	85 - 115	98

Total Recoverable Elements in Soil by ICPOES

Method: ME-(AU)-[ENV]AN045/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB231649.002	Arsenic, As	mg/kg	1	19	16.66	70 - 130	114
	Cadmium, Cd	mg/kg	0.3	18	16.66	70 - 130	108
	Calcium, Ca	mg/kg	10	350	333.33	70 - 130	104
	Chromium, Cr	mg/kg	0.5	19	16.66	70 - 130	111
	Copper, Cu	mg/kg	0.5	18	16.66	70 - 130	106
	Lead, Pb	mg/kg	1	20	16.66	70 - 130	119
	Magnesium, Mg	mg/kg	10	330	333.33	70 - 130	99
	Nickel, Ni	mg/kg	0.5	18	16.66	70 - 130	108
	Phosphorus, P	mg/kg	10	19	16.66	70 - 130	113
	Potassium, K	mg/kg	10	340	333.3	70 - 130	103
	Sodium, Na	mg/kg	10	330	333.33	70 - 130	99
	Zinc, Zn	mg/kg	2	18	16.66	70 - 130	105



MATRIX SPIKES

PE184089 R0

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%
PE184089.001	LB231649.005	Mercury	mg/kg	0.05	0.37	0.08	0.333	87

Total Recoverable Elements in Soil by ICPOES

Method: ME-(AU)-[ENV]AN045/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
PE184089.001	LB231649.005	Arsenic, As	mg/kg	1	22	1	16.66	77
		Cadmium, Cd	mg/kg	0.3	27	<0.3	16.66	104
		Calcium, Ca	mg/kg	10	2500	1700	333.33	149 ☹
		Chromium, Cr	mg/kg	0.5	46	17	16.66	109
		Copper, Cu	mg/kg	0.5	35	4.5	16.66	113
		Lead, Pb	mg/kg	1	43	13	16.66	111
		Magnesium, Mg	mg/kg	10	2800	2000	333.33	144 ☹
		Nickel, Ni	mg/kg	0.5	37	4.6	16.66	120
		Phosphorus, P	mg/kg	10	240	200	16.66	134 ☹
		Potassium, K	mg/kg	10	890	330	333.33	106
		Sodium, Na	mg/kg	10	900	300	333.33	113
		Zinc, Zn	mg/kg	2	62	26	16.66	136 ☹



MATRIX SPIKE DUPLICATES

PE184089 R0

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 end of this report for failure reasons.

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.001	LB231649.006	Mercury	mg/kg	0.05	0.37	0.37	44	0

Total Recoverable Elements in Soil by ICPOES

Method: ME-(AU)-[ENV]AN045/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE184089.001	LB231649.006	Arsenic, As	mg/kg	1	22	20	35	11
		Cadmium, Cd	mg/kg	0.3	27	26	31	4
		Calcium, Ca	mg/kg	10	2500	2100	30	70 Ⓢ
		Chromium, Cr	mg/kg	0.5	46	47	31	1
		Copper, Cu	mg/kg	0.5	35	33	31	7
		Lead, Pb	mg/kg	1	43	43	32	0
		Magnesium, Mg	mg/kg	10	2800	2400	30	74 Ⓢ
		Nickel, Ni	mg/kg	0.5	37	33	31	12
		Phosphorus, P	mg/kg	10	240	230	34	40 Ⓢ
		Potassium, K	mg/kg	10	890	870	31	4
		Sodium, Na	mg/kg	10	900	850	31	9
		Zinc, Zn	mg/kg	2	62	52	33	31



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 Low surrogate recovery due to the sample emulsifying during extraction.
- † Refer to relevant report comments for further information.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.



PE184089 COC

Received: 04-Jul-2025



CHAIN OF CUSTODY RECORD

Page 3 of

4

Company Name : Western Environmental Pty Ltd -WA					Project Number / Purchase Order : P25.045				
Office Address : Unit 5, 162 Collin St, West Perth WA 6005					Contact Name : Filip Magnusson		Project Manager: Matthew Trenorden		Quote ID :
Laboratory Address : SGS Australia Pty Ltd 28 Reid Road Perth Airport, WA, 6105 Contact: Ros Ma, Phone: (08) 9373 3500, 93733531 Email: ros.ma@sgs.com, AU.SampleRecept.Perth@sgs.com					Email for results: filip.m@westenv.com.au		CC1: matt.t@westenv.com.au CC2: zandie.o@westenv.com.au		esdat@westenv.com.au
					Special Directions & Comments : Please forward Triplicate samples (TRIPS) to ALS Perth.				
					Container				
					PFAS Jar Glass Jar ASS bag 100 ml Red Plastic Vial Amber glass PFAS Bottle 1L Plastic				
#	Sample ID	Type	Sample Date	Matrix	Total PFAS, compliant with NEMP ecological indirect criteria (low level)	Metals, THM, BTEX, nutrients and anions/cations	ASS parameters (pH field/fox and Crs suite)	HOLD	
1	SD01-DOWN	Normal	3/07/2025	Sediment	X	X	X	1	2 1
2	SD02-DOWN	Normal	3/07/2025	Sediment	X	X	X	1	2 1
3	SD03-DOWN	Normal	3/07/2025	Sediment	X	X	X	1	2 1
4	SD04-DOWN	Normal	3/07/2025	Sediment	X	X	X	1	2 1
5	SD05-DOWN	Normal	3/07/2025	Sediment	X	X	X	1	2 1
6	SD06-DOWN	Normal	3/07/2025	Sediment	X	X	X	1	2 1
7	SD07-DOWN	Normal	3/07/2025	Sediment	X	X	X	1	2 1
Relinquished By:					Received By:		Turn around Time :		Method Of Shipment :
Filip Magnusson									
Date & Time: 3/07/2025					Date & Time :		Comments :		Hand Delivered
Signature:					Signature:				
					Report Number :				

CLIENT DETAILS

Contact SGS Environmental Perth
 Client SGS I&E EHS PERTH AIRPORT
 Address 28 Reid Road
 Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
 Facsimile +61 (0)8 9373 3556
 Email au.environmental.subcon@sgs.com

Project **P25.045**
 Order Number **PE184089**
 Samples 7

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 **ME373577 R0**
 Date Received 08 Jul 2025
 Date Reported 15 Jul 2025

COMMENTS

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

MA-30: Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).

MA1523: Majority of surrogate recoveries are within acceptance criteria.

SIGNATORIES



Adam ATKINSON
 Australian Chemistry Manager



Nicholas HORA
 Senior Laboratory Technician



Susan WAN
 Senior Chemist



ANALYTICAL REPORT

ME373577 R0

Parameter	Units	LOR	Sample Number	ME373577.001	ME373577.002	ME373577.003	ME373577.004
			Sample Matrix	Sediment	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184089.001	PE184089.002	PE184089.003	PE184089.004

Moisture Content Method: AN002 Tested: 9/7/2025

% Moisture	%w/w	1	46.1	37.4	12.7	25.1
------------	------	---	------	------	------	------

USEPA 8260B Volatile Organic Compounds in Solids/Soils Method: USEPA 8260 B Tested: 9/7/2025

m&p-Xylenes	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5

Monocyclic Aromatic Hydrocarbons

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
o-Xylenes	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic Aromatic Hydrocarbons

Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
-------------------	-------	-----	------	------	------	------

Surrogates

Toluene-d8 (surrogate)	%	-	91	95	92	93
------------------------	---	---	----	----	----	----

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001	0.0001	<0.0001	<0.0001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005	0.0006	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	0.0001	<0.0001	<0.0001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0001	0.0003	<0.0001	<0.0001
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	0.0001	0.0002	<0.0001
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorotridecanoic acid (PFTriDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	0.0002	<0.0001	<0.0001
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	0.0002	0.0008	0.0004	<0.0001
Sum PFOS and PFHXS	mg/kg	0.0001	0.0002	0.0009	0.0004	<0.0001
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorododecane sulfonate (10:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	<0.001	<0.001	<0.001
Total PFAS (n=30)	mg/kg	0.001	<0.001	0.002	<0.001	<0.001
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	98	100	99	100
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	70	82	76	74
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	90	91	90	126
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	100	105	100	128
(13C4-PFOA) Isotopically Labelled Internal Recovery	%	-	104	95	104	115
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	79	101	84	82



ANALYTICAL REPORT

ME373577 R0

Parameter	Units	LOR	Sample Number	ME373577.001	ME373577.002	ME373577.003	ME373577.004
			Sample Matrix	Sediment	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184089.001	PE184089.002	PE184089.003	PE184089.004

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 11/7/2025 (continued)

(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	129	114	82	112
(13C7-PFUDA) Isotopically Labelled Internal Recovery	%	-	98	100	81	83
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	92	74	69	61
(13C2-PFTeDA) Isotopically Labelled Internal Recovery	%	-	60	80	73	132
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	26	48	36	86
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	114	92	110	119
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	102	89	101	115
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	113	104	96	98
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	76	59	83	85
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	71	52	83	56
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	35	46	89	31
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	149	192	247	146
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	181	104	131	142
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	105	87	79	129
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	138	118	129	179
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	118	69	82	160
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	68	68	88	78
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	34	41	57	27

TRH in soil MA-30.SL.01 Method: MA30 Tested: 9/7/2025

TRH C6-C9 (P&T)	mg/kg	10	<10	<10	<10	<10
TRH C10-C14	mg/kg	10	330	150	18	210
TRH >C10-C16	mg/kg	10	720	230	25	310
TRH>C10-C16 less naphthalene (F2)	mg/kg	10	720	230	25	310
TRH >C16-C34 (F3)	mg/kg	20	1500	950	180	1500
TRH C15-C28	mg/kg	20	1200	580	98	870
TRH C29-C36	mg/kg	20	1100	800	120	900
C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10	<10	<10	<10
Total TRH C10-C36	mg/kg	20	2600	1500	240	2000
TRH >C34-C40 (F4)	mg/kg	20	1100	700	94	390
TRH C6-C10 (P&T)	mg/kg	10	<10	<10	<10	<10
Total TRH C6-C36	mg/kg	20	2600	1500	240	2000
Total TRH C6-C40 (F)	mg/kg	20	3300	1900	300	2200
TRH >C10-C40 (F)	mg/kg	20	3300	1900	300	2200

Volatile Petroleum Hydrocarbons in soil Method: MA30-VPH Tested: 9/7/2025

TRH C6-C9 (P&T)	mg/kg	10	<10	<10	<10	<10
TRH C6-C10 (P&T)	mg/kg	10	<10	<10	<10	<10
TRH C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10	<10	<10	<10



ANALYTICAL REPORT

ME373577 R0

Parameter	Units	LOR	Sample Number	ME373577.005	ME373577.006	ME373577.007
			Sample Matrix	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184089.005	PE184089.006	PE184089.007

Moisture Content Method: AN002 Tested: 9/7/2025

% Moisture	%w/w	1	45.8	34.6	25.4
------------	------	---	------	------	------

USEPA 8260B Volatile Organic Compounds in Solids/Soils Method: USEPA 8260 B Tested: 9/7/2025

m&p-Xylenes	mg/kg	0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.5	<0.5	<0.5	<0.5
Monocyclic Aromatic Hydrocarbons					
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1
o-Xylenes	mg/kg	0.1	<0.1	<0.1	<0.1

Polycyclic Aromatic Hydrocarbons

Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	<0.1
-------------------	-------	-----	------	------	------

Surrogates

Toluene-d8 (surrogate)	%	-	98	93	90
------------------------	---	---	----	----	----

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 11/7/2025

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	0.0002	<0.0001	<0.0001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	0.0009	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	<0.0001	0.0004
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	<0.0001	0.0001
Perfluorotridecanoic acid (PFTriDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	<0.0001	0.0002	0.0081
Sum PFOS and PFHXS	mg/kg	0.0001	<0.0001	0.0002	0.0081
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorododecane sulfonate (10:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	<0.001	<0.001
Total PFAS (n=30)	mg/kg	0.001	0.001	<0.001	0.009
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	99	99	100
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	78	78	78
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	100	90	98
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	123	101	106
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	90	116	114



ANALYTICAL REPORT

ME373577 R0

Parameter	Units	LOR	Sample Number	ME373577.005	ME373577.006	ME373577.007
			Sample Matrix	Sediment	Sediment	Sediment
			Sample Date	03 Jul 2025	03 Jul 2025	03 Jul 2025
			Sample Name	PE184089.005	PE184089.006	PE184089.007

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 11/7/2025 (continued)

(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	95	87	93
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	118	121	103
(13C7-PFUDA) Isotopically Labelled Internal Recovery	%	-	88	128	107
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	59	91	102
(13C2-PFtEDA) Isotopically Labelled Internal Recovery	%	-	162	106	134
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	131	76	88
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	113	95	100
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	103	106	95
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	84	90	107
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	90	78	80
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	76	81	83
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	49	82	109
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	144	189	209
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	151	124	107
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	117	77	115
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	134	142	140
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	139	112	120
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	83	64	111
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	34	40	60

TRH in soil MA-30.SL.01 Method: MA30 Tested: 9/7/2025

TRH C6-C9 (P&T)	mg/kg	10	<10	<10	<10
TRH C10-C14	mg/kg	10	330	72	<10
TRH >C10-C16	mg/kg	10	490	110	<10
TRH>C10-C16 less naphthalene (F2)	mg/kg	10	490	110	<10
TRH >C16-C34 (F3)	mg/kg	20	2500	570	120
TRH C15-C28	mg/kg	20	1500	340	59
TRH C29-C36	mg/kg	20	1600	350	79
C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10	<10	<10
Total TRH C10-C36	mg/kg	20	3500	760	140
TRH >C34-C40 (F4)	mg/kg	20	930	230	46
TRH C6-C10 (P&T)	mg/kg	10	<10	<10	<10
Total TRH C6-C36	mg/kg	20	3500	760	140
Total TRH C6-C40 (F)	mg/kg	20	4000	910	160
TRH >C10-C40 (F)	mg/kg	20	4000	910	160

Volatile Petroleum Hydrocarbons in soil Method: MA30-VPH Tested: 9/7/2025

TRH C6-C9 (P&T)	mg/kg	10	<10	<10	<10
TRH C6-C10 (P&T)	mg/kg	10	<10	<10	<10
TRH C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10	<10	<10



QC SUMMARY

ME373577 R0

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	LB091754	%w/w	1	2%

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

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
Perfluoropentanoic acid (PFPeA)	LB091878	mg/kg	0.0005	<0.0005	0%	NA
Perfluorohexanoic acid (PFHxA)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
Perfluoroheptanoic acid (PFHpA)	LB091878	mg/kg	0.0001	<0.0001	0%	79%
Perfluorooctanoic Acid (PFOA)	LB091878	mg/kg	0.0001	<0.0001	0%	86%
Perfluorononanoic acid (PFNA)	LB091878	mg/kg	0.0001	<0.0001	0%	94%
Perfluorodecanoic acid (PFDA)	LB091878	mg/kg	0.0001	<0.0001	0%	95%
Perfluoroundecanoic acid (PFUnA)	LB091878	mg/kg	0.0001	<0.0001	0%	96%
Perfluorododecanoic acid (PFDoA)	LB091878	mg/kg	0.0001	<0.0001	0%	99%
Perfluorotridecanoic acid (PFTrDA)	LB091878	mg/kg	0.0001	<0.0001	0%	66%
Perfluorotetradecanoic acid (PFTeDA)	LB091878	mg/kg	0.0001	<0.0001	0%	62%
Perfluorohexadecanoic acid (PFHxDA)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
Perfluorobutane sulfonate (PFBS)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
Perfluoroheptane sulfonate (PFHpS)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
Perfluorooctane sulfonate (PFOS)	LB091878	mg/kg	0.0001	<0.0001	32%	93%
Sum PFOS and PFHXS	LB091878	mg/kg	0.0001	<0.0001	32%	NA
Perfluorononane sulfonate (PFNS)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
Perfluorodecane sulfonate (PFDS)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB091878	mg/kg	0.0001	<0.0001	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB091878	mg/kg	0.001	<0.001	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB091878	mg/kg	0.001	<0.001	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB091878	mg/kg	0.001	<0.001	0%	NA
1H,1H,2H,2H-Perfluorododecane sulfonate (10:2 FTS)	LB091878	mg/kg	0.001	<0.001	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB091878	mg/kg	0.001	<0.001	0%	100%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB091878	mg/kg	0.001	<0.001	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB091878	mg/kg	0.001	<0.001	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB091878	mg/kg	0.002	<0.002	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB091878	mg/kg	0.002	<0.002	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N_MeFOSAA)	LB091878	mg/kg	0.001	<0.001	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB091878	mg/kg	0.001	<0.001	0%	NA
Total PFAS (n=30)	LB091878	mg/kg	0.001	<0.001		
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	100%	1%	100%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	76%	7%	76%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	100%	15%	83%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	114%	13%	90%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	115%	10%	97%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	109%	2%	95%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	110%	20%	94%
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	96%	10%	92%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	61%	9%	73%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	31%	16%	49%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	100%	7%	27%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	122%	3%	115%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	101%	13%	113%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	90%	11%	96%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	104%	3%	101%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	100%	27%	104%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	102%	10%	100%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	127%	8%	125%



QC SUMMARY

ME373577 R0

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.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 (continued)

				MB	DUP %RPD	LCS %Recovery
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	103%	7%	73%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	47%	14%	40%
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	104%	42%	97%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	79%	5%	81%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	100%	16%	99%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB091878	%	-	87%	37%	86%



QC SUMMARY

ME373577 R0

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.

TRH in soil MA-30.SL.01 Method: MA30

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
TRH C6-C9 (P&T)	LB091742	mg/kg	10	<10	0%	NA	NA	NA
TRH C10-C14	LB091742	mg/kg	10	<10	15%	NA	NA	NA
TRH >C10-C16	LB091742	mg/kg	10	<10	18%	NA	NA	NA
TRH>C10-C16 less naphthalene (F2)	LB091742	mg/kg	10	<10	18%	NA	NA	NA
TRH >C16-C34 (F3)	LB091742	mg/kg	20	<20	5%	NA	NA	NA
TRH C15-C28	LB091742	mg/kg	20	<20	14%	NA	NA	NA
TRH C29-C36	LB091742	mg/kg	20	<20	2%	NA	NA	NA
C6-C10 (P&T) less BTEX (F1)	LB091742	mg/kg	10	<10	0%	NA	NA	NA
Total TRH C10-C36	LB091742	mg/kg	20	<20	9%	91%	-222%	-18%
TRH >C34-C40 (F4)	LB091742	mg/kg	20	<20	8%	NA	NA	NA
TRH C6-C10 (P&T)	LB091742	mg/kg	10	<10	0%	NA	NA	NA
Total TRH C6-C36	LB091742	mg/kg	20	<20	9%	NA	NA	NA
Total TRH C6-C40 (F)	LB091742	mg/kg	20	<20	9%	NA	NA	NA
TRH >C10-C40 (F)	LB091742	mg/kg	20	<20	9%	NA	NA	NA

USEPA 8260B Volatile Organic Compounds in Solids/Soils Method: USEPA 8260 B

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
m&p-Xylenes	LB091751	mg/kg	0.1	<0.1	9%	NA	NA	NA
Total Xylenes	LB091751	mg/kg	0.5	<0.5	10%	NA	NA	NA
Total BTEX	LB091751	mg/kg	0.5	<0.5	0%	NA	NA	NA

Monocyclic Aromatic Hydrocarbons

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Benzene	LB091751	mg/kg	0.1	<0.1	0%	106%	109%	4%
Toluene	LB091751	mg/kg	0.1	<0.1	26%	104%	110%	7%
Ethylbenzene	LB091751	mg/kg	0.1	<0.1	12%	102%	106%	7%
o-Xylenes	LB091751	mg/kg	0.1	<0.1	12%	NA	NA	NA

Polycyclic Aromatic Hydrocarbons

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Naphthalene (VOC)	LB091751	mg/kg	0.1	<0.1	8%	NA	NA	NA

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Toluene-d8 (surrogate)	LB091751	%	-	95%	4%	93%	92%	2%



QC SUMMARY

ME373577 R0

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.

Volatile Petroleum Hydrocarbons in soil Method: MA30-VPH

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
TRH C6-C9 (P&T)	LB091751	mg/kg	10	<10	41%	96%	138%	16%
TRH C6-C10 (P&T)	LB091751	mg/kg	10	<10	43%	81%	131%	6%
TRH C6-C10 (P&T) less BTEX (F1)	LB091751	mg/kg	10	<10	43%	NA	NA	NA

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.

MA-30

This method is used for the analysis of Total Recoverable Hydrocarbons (TRH). TRH is a generic term for all extractable organic compounds and includes all hydrocarbons and hydrocarbon derivatives that have between six and forty carbons per molecule i.e. compounds in the range >C5 to C40.

The reporting of Total Recoverable Hydrocarbons is done by grouping compounds of similar nature and behaviour into "fractions".

Samples are extracted into a solvent appropriate to the matrix. The extract is then analysed using a gas chromatograph with either a flame ionisation detector (GC-FID) or a mass spectrometer (GC-MS)

MA30 -VPH

This method is used to quantify Volatile Petroleum Hydrocarbon (VPH) fractions using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5035 (Closed system purge and trap and extraction for volatile organics in soil and solid waste samples.).

MA30-VPH

A sample is weighed out, and has surrogates added and is extracted in methanol. This methanol extract is then diluted in water. A stream of helium is passed through a portion of the extracted sample ; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

USEPA 8260B

This method is used to quantify Volatile Organic Compounds using Gas Chromatography Mass Spectrometry coupled with a purge and trap sample concentrator. This method is based on USEPA 8260B (Volatile Organic Compounds by Gas Chromatography Mass Spectrometry GC/MS), using USEPA 5035 (Closed system purge and trap and extraction for volatile organics in soil and solid waste samples.).

USEPA 8260B

A sample is weighed out, and has surrogates added and is extracted in methanol. This methanol extract is then diluted in water. A stream of helium is passed through a portion of the extracted sample ; the volatile components are 'purged' from the sample and are collected and concentrated on an adsorbent trap. The trap is rapidly heated and back-flushed with helium to 'desorb' the analytes onto the Gas Chromatographic column. The GC column separates the analytes and they are passed into the Mass Selective detector, which fragments the molecules and produces "mass spectra" of each compound.

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

ME373577 R0

CLIENT DETAILS

Contact SGS Environmental Perth
Client SGS I&E EHS PERTH AIRPORT
Address 28 Reid Road
Perth Airport WA 6105

Telephone +61 (0)8 9373 3500
Facsimile +61 (0)8 9373 3556
Email au.environmental.subcon@sgs.com

Project **P25.045**
Order Number **PE184089**
Samples 7

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 **ME373577 R0**
Date Received 08 Jul 2025
Date Reported 15 Jul 2025

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:

Surrogate	Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level	11 items
Matrix Spike	TRH in soil MA-30.SL.01	1 item

SAMPLE SUMMARY

Date documentation received	8/7/2025	Sample counts by matrix	7 Sediment
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	12.6°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	3 double bagged Ice
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4	Type of documentation received	COC



HOLDING TIME SUMMARY

ME373577 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 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
PE184089.001	ME373577.001	LB091754	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	14 Jul 2025	10 Jul 2025
PE184089.002	ME373577.002	LB091754	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	14 Jul 2025	10 Jul 2025
PE184089.003	ME373577.003	LB091754	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	14 Jul 2025	10 Jul 2025
PE184089.004	ME373577.004	LB091754	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	14 Jul 2025	10 Jul 2025
PE184089.005	ME373577.005	LB091754	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	14 Jul 2025	10 Jul 2025
PE184089.006	ME373577.006	LB091754	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	14 Jul 2025	10 Jul 2025
PE184089.007	ME373577.007	LB091754	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	14 Jul 2025	10 Jul 2025

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level

Method: MA-1523

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184089.001	ME373577.001	LB091878	03 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025	08 Aug 2025	14 Jul 2025
PE184089.002	ME373577.002	LB091878	03 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025	08 Aug 2025	14 Jul 2025
PE184089.003	ME373577.003	LB091878	03 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025	08 Aug 2025	14 Jul 2025
PE184089.004	ME373577.004	LB091878	03 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025	08 Aug 2025	14 Jul 2025
PE184089.005	ME373577.005	LB091878	03 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025	08 Aug 2025	14 Jul 2025
PE184089.006	ME373577.006	LB091878	03 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025	08 Aug 2025	14 Jul 2025
PE184089.007	ME373577.007	LB091878	03 Jul 2025	08 Jul 2025	31 Jul 2025	11 Jul 2025	08 Aug 2025	14 Jul 2025

TRH in soil MA-30.SL.01

Method: MA30

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184089.001	ME373577.001	LB091742	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	14 Jul 2025
PE184089.002	ME373577.002	LB091742	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	14 Jul 2025
PE184089.003	ME373577.003	LB091742	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	14 Jul 2025
PE184089.004	ME373577.004	LB091742	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	14 Jul 2025
PE184089.005	ME373577.005	LB091742	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	14 Jul 2025
PE184089.006	ME373577.006	LB091742	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	14 Jul 2025
PE184089.007	ME373577.007	LB091742	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	18 Aug 2025	14 Jul 2025

USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184089.001	ME373577.001	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.002	ME373577.002	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.003	ME373577.003	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.004	ME373577.004	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.005	ME373577.005	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.006	ME373577.006	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.007	ME373577.007	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025

Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
PE184089.001	ME373577.001	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.002	ME373577.002	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.003	ME373577.003	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.004	ME373577.004	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.005	ME373577.005	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.006	ME373577.006	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025
PE184089.007	ME373577.007	LB091751	03 Jul 2025	08 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	10 Jul 2025



SURROGATES

ME373577 R0

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- Low level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 130%	60
	PE184089.002	ME373577.002	%	10 - 130%	80
	PE184089.003	ME373577.003	%	10 - 130%	73
	PE184089.004	ME373577.004	%	10 - 130%	132 ↑
	PE184089.005	ME373577.005	%	10 - 130%	162 ↑
	PE184089.006	ME373577.006	%	10 - 130%	106
	PE184089.007	ME373577.007	%	10 - 130%	134 ↑
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	76
	PE184089.002	ME373577.002	%	10 - 150%	59
	PE184089.003	ME373577.003	%	10 - 150%	83
	PE184089.004	ME373577.004	%	10 - 150%	85
	PE184089.005	ME373577.005	%	10 - 150%	90
	PE184089.006	ME373577.006	%	10 - 150%	78
	PE184089.007	ME373577.007	%	10 - 150%	80
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	71
	PE184089.002	ME373577.002	%	10 - 150%	52
	PE184089.003	ME373577.003	%	10 - 150%	83
	PE184089.004	ME373577.004	%	10 - 150%	56
	PE184089.005	ME373577.005	%	10 - 150%	76
	PE184089.006	ME373577.006	%	10 - 150%	81
	PE184089.007	ME373577.007	%	10 - 150%	83
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	35
	PE184089.002	ME373577.002	%	10 - 150%	46
	PE184089.003	ME373577.003	%	10 - 150%	89
	PE184089.004	ME373577.004	%	10 - 150%	31
	PE184089.005	ME373577.005	%	10 - 150%	49
	PE184089.006	ME373577.006	%	10 - 150%	82
	PE184089.007	ME373577.007	%	10 - 150%	109
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	92
	PE184089.002	ME373577.002	%	10 - 150%	74
	PE184089.003	ME373577.003	%	10 - 150%	69
	PE184089.004	ME373577.004	%	10 - 150%	61
	PE184089.005	ME373577.005	%	10 - 150%	59
	PE184089.006	ME373577.006	%	10 - 150%	91
	PE184089.007	ME373577.007	%	10 - 150%	102
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	26
	PE184089.002	ME373577.002	%	10 - 150%	48
	PE184089.003	ME373577.003	%	10 - 150%	36
	PE184089.004	ME373577.004	%	10 - 150%	86
	PE184089.005	ME373577.005	%	10 - 150%	131
	PE184089.006	ME373577.006	%	10 - 150%	76
	PE184089.007	ME373577.007	%	10 - 150%	88
(13C3-PFBs) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	114
	PE184089.002	ME373577.002	%	10 - 150%	92
	PE184089.003	ME373577.003	%	10 - 150%	110
	PE184089.004	ME373577.004	%	10 - 150%	119
	PE184089.005	ME373577.005	%	10 - 150%	113
	PE184089.006	ME373577.006	%	10 - 150%	95
	PE184089.007	ME373577.007	%	10 - 150%	100
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	102
	PE184089.002	ME373577.002	%	10 - 150%	89
	PE184089.003	ME373577.003	%	10 - 150%	101
	PE184089.004	ME373577.004	%	10 - 150%	115
	PE184089.005	ME373577.005	%	10 - 150%	103
	PE184089.006	ME373577.006	%	10 - 150%	106
	PE184089.007	ME373577.007	%	10 - 150%	95
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	104
	PE184089.002	ME373577.002	%	10 - 150%	95
	PE184089.003	ME373577.003	%	10 - 150%	104
	PE184089.004	ME373577.004	%	10 - 150%	115
	PE184089.005	ME373577.005	%	10 - 150%	90



SURROGATES

ME373577 R0

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- Low level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	PE184089.006	ME373577.006	%	10 - 150%	116
	PE184089.007	ME373577.007	%	10 - 150%	114
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	98
	PE184089.002	ME373577.002	%	10 - 150%	100
	PE184089.003	ME373577.003	%	10 - 150%	99
	PE184089.004	ME373577.004	%	10 - 150%	100
	PE184089.005	ME373577.005	%	10 - 150%	99
	PE184089.006	ME373577.006	%	10 - 150%	99
	PE184089.007	ME373577.007	%	10 - 150%	100
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	100
	PE184089.002	ME373577.002	%	10 - 150%	105
	PE184089.003	ME373577.003	%	10 - 150%	100
	PE184089.004	ME373577.004	%	10 - 150%	128
	PE184089.005	ME373577.005	%	10 - 150%	123
	PE184089.006	ME373577.006	%	10 - 150%	101
	PE184089.007	ME373577.007	%	10 - 150%	106
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	90
	PE184089.002	ME373577.002	%	10 - 150%	91
	PE184089.003	ME373577.003	%	10 - 150%	90
	PE184089.004	ME373577.004	%	10 - 150%	126
	PE184089.005	ME373577.005	%	10 - 150%	100
	PE184089.006	ME373577.006	%	10 - 150%	90
	PE184089.007	ME373577.007	%	10 - 150%	98
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	70
	PE184089.002	ME373577.002	%	10 - 150%	82
	PE184089.003	ME373577.003	%	10 - 150%	76
	PE184089.004	ME373577.004	%	10 - 150%	74
	PE184089.005	ME373577.005	%	10 - 150%	78
	PE184089.006	ME373577.006	%	10 - 150%	78
	PE184089.007	ME373577.007	%	10 - 150%	78
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	129
	PE184089.002	ME373577.002	%	10 - 150%	114
	PE184089.003	ME373577.003	%	10 - 150%	82
	PE184089.004	ME373577.004	%	10 - 150%	112
	PE184089.005	ME373577.005	%	10 - 150%	118
	PE184089.006	ME373577.006	%	10 - 150%	121
	PE184089.007	ME373577.007	%	10 - 150%	103
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	98
	PE184089.002	ME373577.002	%	10 - 150%	100
	PE184089.003	ME373577.003	%	10 - 150%	81
	PE184089.004	ME373577.004	%	10 - 150%	83
	PE184089.005	ME373577.005	%	10 - 150%	88
	PE184089.006	ME373577.006	%	10 - 150%	128
	PE184089.007	ME373577.007	%	10 - 150%	107
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	113
	PE184089.002	ME373577.002	%	10 - 150%	104
	PE184089.003	ME373577.003	%	10 - 150%	96
	PE184089.004	ME373577.004	%	10 - 150%	98
	PE184089.005	ME373577.005	%	10 - 150%	84
	PE184089.006	ME373577.006	%	10 - 150%	90
	PE184089.007	ME373577.007	%	10 - 150%	107
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	149
	PE184089.002	ME373577.002	%	10 - 150%	192 †
	PE184089.003	ME373577.003	%	10 - 150%	247 †
	PE184089.004	ME373577.004	%	10 - 150%	146
	PE184089.005	ME373577.005	%	10 - 150%	144
	PE184089.006	ME373577.006	%	10 - 150%	189 †
	PE184089.007	ME373577.007	%	10 - 150%	209 †
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	79
	PE184089.002	ME373577.002	%	10 - 150%	101
	PE184089.003	ME373577.003	%	10 - 150%	84

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- Low level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	PE184089.004	ME373577.004	%	10 - 150%	82
	PE184089.005	ME373577.005	%	10 - 150%	95
	PE184089.006	ME373577.006	%	10 - 150%	87
	PE184089.007	ME373577.007	%	10 - 150%	93
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	181 ↑
	PE184089.002	ME373577.002	%	10 - 150%	104
	PE184089.003	ME373577.003	%	10 - 150%	131
	PE184089.004	ME373577.004	%	10 - 150%	142
	PE184089.005	ME373577.005	%	10 - 150%	151 ↑
	PE184089.006	ME373577.006	%	10 - 150%	124
	PE184089.007	ME373577.007	%	10 - 150%	107
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	68
	PE184089.002	ME373577.002	%	10 - 150%	68
	PE184089.003	ME373577.003	%	10 - 150%	88
	PE184089.004	ME373577.004	%	10 - 150%	78
	PE184089.005	ME373577.005	%	10 - 150%	83
	PE184089.006	ME373577.006	%	10 - 150%	64
	PE184089.007	ME373577.007	%	10 - 150%	111
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	105
	PE184089.002	ME373577.002	%	10 - 150%	87
	PE184089.003	ME373577.003	%	10 - 150%	79
	PE184089.004	ME373577.004	%	10 - 150%	129
	PE184089.005	ME373577.005	%	10 - 150%	117
	PE184089.006	ME373577.006	%	10 - 150%	77
	PE184089.007	ME373577.007	%	10 - 150%	115
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	34
	PE184089.002	ME373577.002	%	10 - 150%	41
	PE184089.003	ME373577.003	%	10 - 150%	57
	PE184089.004	ME373577.004	%	10 - 150%	27
	PE184089.005	ME373577.005	%	10 - 150%	34
	PE184089.006	ME373577.006	%	10 - 150%	40
	PE184089.007	ME373577.007	%	10 - 150%	60
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	138
	PE184089.002	ME373577.002	%	10 - 150%	118
	PE184089.003	ME373577.003	%	10 - 150%	129
	PE184089.004	ME373577.004	%	10 - 150%	179 ↑
	PE184089.005	ME373577.005	%	10 - 150%	134
	PE184089.006	ME373577.006	%	10 - 150%	142
	PE184089.007	ME373577.007	%	10 - 150%	140
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	PE184089.001	ME373577.001	%	10 - 150%	118
	PE184089.002	ME373577.002	%	10 - 150%	69
	PE184089.003	ME373577.003	%	10 - 150%	82
	PE184089.004	ME373577.004	%	10 - 150%	160 ↑
	PE184089.005	ME373577.005	%	10 - 150%	139
	PE184089.006	ME373577.006	%	10 - 150%	112
	PE184089.007	ME373577.007	%	10 - 150%	120

USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Toluene-d8 (surrogate)	PE184089.001	ME373577.001	%	60 - 130%	91
	PE184089.002	ME373577.002	%	60 - 130%	95
	PE184089.003	ME373577.003	%	60 - 130%	92
	PE184089.004	ME373577.004	%	60 - 130%	93
	PE184089.005	ME373577.005	%	60 - 130%	98
	PE184089.006	ME373577.006	%	60 - 130%	93
	PE184089.007	ME373577.007	%	60 - 130%	90

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- Low level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result
LB091878.001	Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001
	Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005
	Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001
	Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001
	Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	<0.0001
	Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001
	Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001
	Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001
	Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001
	Perfluorotridecanoic acid (PFTTrDA)	mg/kg	0.0001	<0.0001
	Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001
	Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001
	Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001
	Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001
	Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001
	Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001
	Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	<0.0001
	Sum PFOS and PFHXS	mg/kg	0.0001	<0.0001
	Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001
	Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001
	Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001
	1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001
	1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001
	1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001
	Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001
	N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001
	N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001
	2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	mg/kg	0.002	<0.002
	2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	mg/kg	0.002	<0.002
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	mg/kg	0.001	<0.001
	N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	mg/kg	0.001	<0.001
	(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	%	-	76
	(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	%	-	114
	(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	%	-	115
	(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	%	-	109
	(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	%	-	110
	(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	%	-	96
	(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	%	-	61
	(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	%	-	31
	(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	%	-	122
	(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	%	-	101
	(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	%	-	90
	(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	104
	(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	100
	(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	%	-	102
	(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	%	-	127
	(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	%	-	103
	(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	%	-	47
	(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	%	-	104
	(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	%	-	79
	(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	100
	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	%	-	87

TRH in soil MA-30.SL.01

Method: MA30

Sample Number	Parameter	Units	LOR	Result
LB091742.001	TRH C6-C9 (P&T)	mg/kg	10	<10
	TRH C10-C14	mg/kg	10	<10
	TRH >C10-C16	mg/kg	10	<10



METHOD BLANKS

ME373577 R0

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.

TRH in soil MA-30.SL.01 (continued)

Method: MA30

Sample Number	Parameter	Units	LOR	Result
LB091742.001	TRH>C10-C16 less naphthalene (F2)	mg/kg	10	<10
	TRH >C16-C34 (F3)	mg/kg	20	<20
	TRH C15-C28	mg/kg	20	<20
	TRH C29-C36	mg/kg	20	<20
	C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10
	Total TRH C10-C36	mg/kg	20	<20
	TRH >C34-C40 (F4)	mg/kg	20	<20
	TRH C6-C10 (P&T)	mg/kg	10	<10
	Total TRH C6-C36	mg/kg	20	<20
	Total TRH C6-C40 (F)	mg/kg	20	<20
	TRH >C10-C40 (F)	mg/kg	20	<20

USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

Sample Number	Parameter	Units	LOR	Result
LB091751.001	m&p-Xylenes	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	Benzene	0.1	<0.1
		Toluene	0.1	<0.1
		Ethylbenzene	0.1	<0.1
		o-Xylenes	0.1	<0.1
	Polycyclic Aromatic	Naphthalene (VOC)	0.1	<0.1
	Surrogates	Toluene-d8 (surrogate)	%	95

Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result
LB091751.001	TRH C6-C9 (P&T)	mg/kg	10	<10
	TRH C6-C10 (P&T)	mg/kg	10	<10
	TRH C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10



DUPLICATES

ME373577 R0

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)-ENVJAN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373577.001	LB091754.002	% Moisture	%w/w	1	46.1	45.3	32	2

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373577.001	LB091878.004	Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005	<0.0005	200	0
		Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorotridecanoic acid (PFTTrDA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	0.0002	0.0002	200	32
		Sum PFOS and PFHXS	mg/kg	0.0001	0.0002	0.0002	200	32
		Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	<0.0001	200	0
		1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	<0.001	200	0
		1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	<0.001	200	0
		1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	<0.001	200	0
		1H,1H,2H,2H-Perfluorododecane sulfonate (10:2 FTS)	mg/kg	0.001	<0.001	<0.001	200	0
		Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	<0.001	200	0
		N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	<0.001	200	0
		N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	<0.001	200	0
		2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	200	0
		2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	200	0
		N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	<0.001	200	0
		N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	<0.001	200	0
		(13C4-PFBA) Isotopically Labelled Internal Recovery	mg/kg	-	9.85	9.91	200	1
		(13C5-PFPeA) Isotopically Labelled Internal Recovery	mg/kg	-	7.05	7.57	200	7
		(13C5-PFHxA) Isotopically Labelled Internal Recovery	mg/kg	-	8.99	7.70	200	15
		(13C4-PFHpA) Isotopically Labelled Internal Recovery	mg/kg	-	10.0	8.80	200	13
		(13C4_PFOA) Isotopically Labelled Internal Recovery	mg/kg	-	10.4	11.5	200	10
		(13C9-PFNA) Isotopically Labelled Internal Recovery	mg/kg	-	7.86	8.04	200	2
		(13C6-PFDA) Isotopically Labelled Internal Recovery	mg/kg	-	12.9	10.5	200	20
		(13C7-PFUDa) Isotopically Labelled Internal Recovery	mg/kg	-	9.81	10.8	200	10
		(13C2-PFDoA) Isotopically Labelled Internal Recovery	mg/kg	-	9.16	9.98	200	9
		(13C2_PFTeDA) Isotopically Labelled Internal Recovery	mg/kg	-	6.05	7.07	200	16
		(13C2-PFHxDA) Isotopically Labelled Internal Recovery	mg/kg	-	2.57	2.39	200	7
		(13C3-PFBS) Isotopically Labelled Internal Recovery	mg/kg	-	11.4	11.1	200	3
		(13C3-PFHxS) Isotopically Labelled Internal Recovery	mg/kg	-	10.2	11.6	200	13
		(13C8-PFOS) Isotopically Labelled Internal Recovery	mg/kg	-	11.3	12.6	200	11
		(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	mg/kg	-	7.61	7.86	200	3
		(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	mg/kg	-	7.07	5.37	200	27
		(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	mg/kg	-	3.46	3.14	200	10
		(13C8-PFOSA) Isotopically Labelled Internal Recovery	mg/kg	-	14.9	16.1	200	8
		(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	mg/kg	-	18.1	19.4	200	7
		(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	mg/kg	-	10.5	12.1	200	14
		(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	mg/kg	-	13.8	9.01	200	42
		(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	mg/kg	-	11.8	12.4	200	5
		(D3-N-MeFOSAA) Isotopically Labelled Internal	mg/kg	-	6.79	5.78	200	16

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.

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

Method: MA-1523

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373577.001	LB091878.004	(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	mg/kg	-	3.43	4.97	200	37

TRH in soil MA-30.SL.01

Method: MA30

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373577.001	LB091742.004	TRH C6-C9 (P&T)	mg/kg	10	<10	<10	200	0
		TRH C10-C14	mg/kg	10	330	290	33	15
		TRH >C10-C16	mg/kg	10	720	600	32	18
		TRH>C10-C16 less naphthalene (F2)	mg/kg	10	720	600	32	18
		TRH >C16-C34 (F3)	mg/kg	20	1500	1400	31	5
		TRH C15-C28	mg/kg	20	1200	1100	32	14
		TRH C29-C36	mg/kg	20	1100	1100	32	2
		C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10	<10	200	0
		Total TRH C10-C36	mg/kg	20	2600	2400	31	9
		TRH >C34-C40 (F4)	mg/kg	20	1100	990	32	8
		TRH C6-C10 (P&T)	mg/kg	10	<10	<10	200	0
		Total TRH C6-C36	mg/kg	20	2600	2400	31	9
		Total TRH C6-C40 (F)	mg/kg	20	3300	3000	31	9
		TRH >C10-C40 (F)	mg/kg	20	3300	3000	31	9

USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373444.001	LB091751.004	m&p-Xylenes	mg/kg	0.1	1.6	1.4	37	9
		Total Xylenes	mg/kg	0.5	3.5	3.2	36	10
		Total BTEX	mg/kg	0.5	5.0	5.0	34	0
		Monocyclic Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic Toluene	mg/kg	0.1	0.9	1.2	40	26
		Ethylbenzene	mg/kg	0.1	0.6	0.7	45	12
		o-Xylenes	mg/kg	0.1	2.0	1.8	35	12
		Polycyclic Naphthalene (VOC)	mg/kg	0.1	0.7	0.7	45	8
		Surrogates Toluene-d8 (surrogate)	mg/kg	-	21	20	30	4

Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373444.001	LB091751.004	TRH C6-C9 (P&T)	mg/kg	10	<10	15	119	41
		TRH C6-C10 (P&T)	mg/kg	10	22	34	65	43
		TRH C6-C10 (P&T) less BTEX (F1)	mg/kg	10	17	27	75	43



LABORATORY CONTROL SAMPLES

ME373577 R0

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- Low level

Method: MA-1523

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091878.002	Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	0.0002	0.00022	30 - 150	79
	Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	0.0002	0.00022	30 - 150	86
	Perfluorononanoic acid (PFNA)	mg/kg	0.0001	0.0002	0.00022	30 - 150	94
	Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	0.0002	0.00022	30 - 150	95
	Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	0.0002	0.00022	30 - 150	96
	Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	0.0002	0.00022	30 - 150	99
	Perfluorotridecanoic acid (PFTriDA)	mg/kg	0.0001	0.0001	0.00022	30 - 150	66
	Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	0.0001	0.00022	30 - 150	62
	Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	0.0002	0.00022	30 - 150	93
	Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	0.00022	30 - 150	100

TRH in soil MA-30.SL.01

Method: MA30

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091742.002	Total TRH C10-C36	mg/kg	20	460	500	80 - 120	91

USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091751.002	Monocyclic	Benzene	mg/kg	0.1	5.3	5	60 - 140	106
	Aromatic	Toluene	mg/kg	0.1	5.2	5	60 - 140	104
		Ethylbenzene	mg/kg	0.1	5.1	5	60 - 140	102

Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091751.002	TRH C6-C9 (P&T)	mg/kg	10	29	30	60 - 140	96
	TRH C6-C10 (P&T)	mg/kg	10	28	35	60 - 140	81



MATRIX SPIKES

ME373577 R0

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.

TRH in soil MA-30.SL.01

Method: MA30

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
ME373577.001	LB091742.005	TRH C6-C9 (P&T)	mg/kg	10	<10	<10	-	-
		TRH C10-C14	mg/kg	10	340	330	-	-
		TRH >C10-C16	mg/kg	10	530	720	-	-
		TRH>C10-C16 less naphthalene (F2)	mg/kg	10	530	720	-	-
		TRH >C16-C34 (F3)	mg/kg	20	810	1500	-	-
		TRH C15-C28	mg/kg	20	710	1200	-	-
		TRH C29-C36	mg/kg	20	460	1100	-	-
		C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10	<10	-	-
		Total TRH C10-C36	mg/kg	20	1500	2600	500	-222 ☹
		TRH >C34-C40 (F4)	mg/kg	20	440	1100	-	-
		TRH C6-C10 (P&T)	mg/kg	10	<10	<10	-	-
		Total TRH C6-C36	mg/kg	20	1500	2600	-	-
		Total TRH C6-C40 (F)	mg/kg	20	1800	3300	-	-
		TRH >C10-C40 (F)	mg/kg	20	1800	3300	-	-

USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
ME373444.001	LB091751.005	m&p-Xylenes	mg/kg	0.1	2.3	1.6	-	-
		Total Xylenes	mg/kg	0.5	4.9	3.5	-	-
		Total BTEX	mg/kg	0.5	23	5.0	-	-
		Monocyclic Benzene	mg/kg	0.1	5.4	<0.1	5	109
		Aromatic Toluene	mg/kg	0.1	6.4	0.9	5	110
		Ethylbenzene	mg/kg	0.1	5.9	0.6	5	106
		o-Xylenes	mg/kg	0.1	2.5	2.0	-	-
		Polycyclic Naphthalene (VOC)	mg/kg	0.1	0.6	0.7	-	-
		Surrogates Toluene-d8 (surrogate)	mg/kg	-	18	21	-	92

Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
ME373444.001	LB091751.005	TRH C6-C9 (P&T)	mg/kg	10	49	<10	30	138
		TRH C6-C10 (P&T)	mg/kg	10	68	22	35	131
		TRH C6-C10 (P&T) less BTEX (F1)	mg/kg	10	45	17	-	-



MATRIX SPIKE DUPLICATES

ME373577 R0

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 end of this report for failure reasons.

TRH in soil MA-30.SL.01

Method: MA30

QC Sample	Sample Number	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373577.001	LB091742.006	TRH C6-C9 (P&T)	mg/kg	10	<10	<10	200	-
		TRH C10-C14	mg/kg	10	340	370	33	-
		TRH >C10-C16	mg/kg	10	530	580	32	-
		TRH>C10-C16 less naphthalene (F2)	mg/kg	10	530	580	32	-
		TRH >C16-C34 (F3)	mg/kg	20	810	910	32	-
		TRH C15-C28	mg/kg	20	710	800	33	-
		TRH C29-C36	mg/kg	20	460	530	34	-
		C6-C10 (P&T) less BTEX (F1)	mg/kg	10	<10	<10	200	-
		Total TRH C10-C36	mg/kg	20	1500	1700	31	-18
		TRH >C34-C40 (F4)	mg/kg	20	440	510	34	-
		TRH C6-C10 (P&T)	mg/kg	10	<10	<10	200	-
		Total TRH C6-C36	mg/kg	20	1500	1700	31	-
		Total TRH C6-C40 (F)	mg/kg	20	1800	2000	31	-
		TRH >C10-C40 (F)	mg/kg	20	1800	2000	31	-

USEPA 8260B Volatile Organic Compounds in Solids/Soils

Method: USEPA 8260 B

QC Sample	Sample Number	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373444.001	LB091751.006	m&p-Xylenes	mg/kg	0.1	2.3	4.3	33	-
		Total Xylenes	mg/kg	0.5	4.9	7.0	33	-
		Total BTEX	mg/kg	0.5	23	25	31	-
		Monocyclic Aromatic Benzene	mg/kg	0.1	5.4	5.2	32	4
		Toluene	mg/kg	0.1	6.4	6.8	32	7
		Ethylbenzene	mg/kg	0.1	5.9	6.3	32	7
		o-Xylenes	mg/kg	0.1	2.5	2.7	34	-
		Polycyclic Naphthalene (VOC)	mg/kg	0.1	0.6	0.6	46	-
		Surrogates Toluene-d8 (surrogate)	mg/kg	-	18	18	30	2

Volatile Petroleum Hydrocarbons in soil

Method: MA30-VPH

QC Sample	Sample Number	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373444.001	LB091751.006	TRH C6-C9 (P&T)	mg/kg	10	49	42	52	16
		TRH C6-C10 (P&T)	mg/kg	10	68	71	44	6
		TRH C6-C10 (P&T) less BTEX (F1)	mg/kg	10	45	45	52	-



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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.



SAMPLE RECEIPT ADVICE

PE184089

CLIENT DETAILS

Contact Filip M
Client WESTERN ENVIRONMENTAL
Address PO BOX 437
LEEDERVILLE WA 6903

Telephone 61 8 61628980
Facsimile (Not specified)
Email filip.m@westenv.com.au

Project **P25.045**
Order Number **P25.045**
Samples 7

LABORATORY DETAILS

Manager Merene Hwang
Laboratory SGS Perth Environmental
Address 28 Reid Rd
Perth Airport WA 6105

Telephone (08) 9373 3500
Facsimile (08) 9373 3556
Email au.environmental.perth@sgs.com

Samples Received Fri 4/7/2025
Report Due Fri 18/7/2025
SGS Reference **PE184089**

SUBMISSION DETAILS

This is to confirm that 7 samples were received on Friday 4/7/2025. Results are expected to be ready by COB Friday 18/7/2025. Please quote SGS reference PE184089 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Date documentation received	4/7/2025	Sample counts by matrix	7 Sediment
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17.4-18.9°C	Sample container provider	SGS
Turnaround time requested	Standard	Samples received in correct containers	Yes
Sufficient sample for analysis	Yes	Sample cooling method	None
Samples clearly labelled	Yes	Complete documentation received	Yes
Number of eskies/boxes received	4		

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

Organics and PFAS to be subcontracted to SGS Notting Hill
Pulp to be subcontracted to SGS MinGeo

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

PE184089

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Field pH for Acid Sulphate Soil	HCl Extractable S, Ca and Mg in Soil/Solids ICP OES	Moisture Content	Per- and Polyfluoroalkyl Substances (PFAS) in	TAA (Titratable Actual Acidity)	TRH in soil MA-30.SL.01	USEPA 8260B Volatile Organic Compounds in	Volatile Petroleum Hydrocarbons in soil
001	SD01-DOWN	4	1	1	56	4	11	9	3
002	SD02-DOWN	4	1	1	56	4	11	9	3
003	SD03-DOWN	4	1	1	56	4	11	9	3
004	SD04-DOWN	4	1	1	56	4	11	9	3
005	SD05-DOWN	4	1	1	56	4	11	9	3
006	SD06-DOWN	4	1	1	56	4	11	9	3
007	SD07-DOWN	4	1	1	56	4	11	9	3

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

PE184089

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Acid Neutralising Capacity (ANC)	Alkalinity in Soil	Chloride (water extractable)	Chromium Reducible Sulfur (CRS)	Chromium Suite Net Acidity Calculations	Sulfate (water extractable) in Soil
001	SD01-DOWN	4	4	1	3	6	1
002	SD02-DOWN	4	4	1	3	6	1
003	SD03-DOWN	4	4	1	3	6	1
004	SD04-DOWN	4	4	1	3	6	1
005	SD05-DOWN	4	4	1	3	6	1
006	SD06-DOWN	4	4	1	3	6	1
007	SD07-DOWN	4	4	1	3	6	1

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

PE184089

CLIENT DETAILS

Client **WESTERN ENVIRONMENTAL**

Project **P25.045**

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen (soluble) in Soil, sediment	Mercury in Soil	Total Kjeldahl Nitrogen and Total Nitrogen in	Total Oxidised Nitrogen NOx (Water Extract) in Soil	Total Recoverable Elements in Soil by
001	SD01-DOWN	1	1	2	5	12
002	SD02-DOWN	1	1	2	5	12
003	SD03-DOWN	1	1	2	5	12
004	SD04-DOWN	1	1	2	5	12
005	SD05-DOWN	1	1	2	5	12
006	SD06-DOWN	1	1	2	5	12
007	SD07-DOWN	1	1	2	5	12

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 C – TONKIN EXTENSION WETLAND CONDITION TEHCNICAL MEMORANDUM

To: Yossi Taylor

From: Sacha Ruoss

Company: Tonkin Extension Alliance

SLR Consulting Australia

Date: 8 August 2025

Project No. 675.073168.00002

RE: Tonkin Extension Wetland Condition

Confidentiality

This document is confidential and may contain legally privileged information. If you are not a named or authorised recipient, you must not read, copy, distribute or act in reliance on it. If you have received this document in error, please notify us immediately and return the document by mail.

1.0 Introduction and Background

SLR Consulting Australia Pty Ltd (SLR) was commissioned by the Tonkin Extension Alliance (TEA) to undertake an assessment of wetland condition for the 14 km Tonkin Highway extension project (the Project). The Project extends from Thomas Road in Oakford to Southwestern Highway near Jarrahdale Road in Jarrahdale.

In accordance with environmental approval conditions, the condition of wetlands identified as having a “Conservation” management category must be monitored. The purpose of monitoring is to ensure that the development of the Project does not adversely affect the condition of these wetlands and that their ecological values are preserved.

This represents the first round of monitoring, undertaken prior to any impacts from the Project, and will serve as a baseline for comparison with post-construction monitoring to identify any changes in wetland condition.

2.0 Methods

A site visit was conducted on 6th August 2025 by Principal Botanist Sacha Ruoss, who has 13 years of experience conducting ecological assessments in Western Australia.

A total of five conservation-listed wetlands were visited during the site assessment (**Figure 1**). Three intersect the Project footprint, while the remaining two, located within the Abernethy Road Bushland and Cardup Nature Reserve, occur in very close proximity to the Project area.

Wetland condition was assessed using the Keighery (1994) vegetation condition scale, and vegetation types were described in accordance with the National Vegetation Information System (NVIS) Level 5 (association level).

At each site, a set of two photographs was taken of the wetland - one within or adjacent to the Project area and one well outside of the Project Area. The GPS coordinates and photo direction were recorded for each image. The location of the wetland monitoring photos is shown in **Figure 1** and listed in **Table 1**.



Figure 1: Location of wetland monitoring photos (yellow dots) shown in relation to conservation category wetlands (blue) and the Project Area (red outline).



Table 1: Details of wetland monitoring photos

Conservation Wetland	Location	Waypoint (Lat)	Waypoint (Long)	Photo No.
Wetland 14495 (Abernethy Road Bushland)	Adjacent to Project Area	-32.219858	115.972888	Photo 1
	Outside Project Area	-32.219871	115.969639	Photo 2
Wetland 14945	Inside Project Area	-32.276287	115.969477	Photo 3
	Outside Project Area	-32.276390	115.967618	Photo 4
Wetland 14817	Inside Project Area	-32.297990	115.971356	Photo 5
	Outside Project Area	-32.297782	115.969191	Photo 6
Wetland 14985	Inside Project Area	-32.305450	115.982570	Photo 7
	Outside Project Area	-32.304274	115.983048	Photo 8
Wetland 14504 (Cardup Nature Reserve)	Adjacent to Project Area	-32.241420	115.985351	Photo 9
	Outside Project Area	-32.241657	115.985610	Photo 10

3.0 Results

A total of five conservation wetlands were visited (**Table 2**), with vegetation condition ranging from Degraded to Excellent.

Wetland 14495

Wetland 14495 is located at the corner of Abernethy Road and Hopkinson Road in Oakford and forms part of Bush Forever Site 65. Disturbances observed included low intensity weed invasion, evidence of fire, previous clearing, rubbish, and potentially dieback presence. Adjacent to the Project Area the vegetation is a mixed Marri (*Corymbia calophylla*) and Madong (*Melaleuca preissiana*) woodland in good condition, while the wetland vegetation consists of Swamp Cypress (*Callitris pyramidalis*) and Swamp Sheoak (*Casuarina obesa*) woodland in Very Good condition.



Table 2: Summary of Conservation Wetland Condition

Photo No.	Conservation Wetland	Photo	Vegetation Description	Vegetation Condition (Keighery Scale)
Photo 1:	Wetland 14495 adjacent to Project Area (Facing West)		<i>Corymbia calophylla</i> , <i>Melaleuca preissiana</i> , and <i>Nuytsia floribunda</i> woodland over <i>Xanthorrhoea preissii</i> over mixed weedy grasses	Good
Photo 2:	Wetland 14495 outside Project Area (Facing South)		<i>Callitris pyramidalis</i> and <i>Casuarina obesa</i> woodland over <i>Melaleuca</i> sp. and <i>Verticordia</i> sp. over mixed weedy grasses	Very Good

Photo No.	Conservation Wetland	Photo	Vegetation Description	Vegetation Condition (Keighery Scale)
Photo 3:	Wetland 14945 inside Project Area (Facing West)		<i>Eucalyptus rudis</i> , <i>Melaleuca preissiana</i> and <i>Melaleuca raphiophylla</i> over * <i>Oxalis pes-caprae</i> , * <i>Gomphocarpus fruticosus</i> , * <i>Zantedeschia aethiopica</i> and mixed weedy grasses	Good
Photo 4:	Wetland 14945 outside Project Area (Facing North)		<i>Eucalyptus rudis</i> and <i>Melaleuca raphiophylla</i> over * <i>Oxalis pes-caprae</i> , * <i>Gomphocarpus fruticosus</i> , and * <i>Zantedeschia aethiopica</i> and mixed weedy grasses	Good



Photo No.	Conservation Wetland	Photo	Vegetation Description	Vegetation Condition (Keighery Scale)
Photo 5:	Wetland 14817 inside Project Area (Facing South)		<i>Corymbia calophylla</i> and <i>Melaleuca preissiana</i> over <i>Xanthorrhoea preissii</i> , <i>Kingia australis</i> over <i>Stirlingia latifolia</i> , <i>Jacksonia sternbergiana</i> and <i>Mesomelaena tetragona</i> over mixed weedy grasses	Very Good
Photo 6:	Wetland 14817 outside Project Area (Facing South)		<i>Eucalyptus rudis</i> and <i>Casuarina obesa</i> over <i>Xanthorrhoea preissii</i> , <i>Kingia australis</i> , and <i>Verticordia densiflora</i> over <i>Hypocalymma angustifolium</i> and <i>Mesomelaena tetragona</i>	Very Good



Photo No.	Conservation Wetland	Photo	Vegetation Description	Vegetation Condition (Keighery Scale)
Photo 7:	Wetland 14986 inside Project Area (Facing West)		<i>Corymbia calophylla</i> and <i>Melaleuca preissiana</i> over <i>Jacksonia sternbergiana</i> , <i>Acacia pulchella</i> and <i>Xanthorrhoea preissii</i> over <i>Watsonia meriana</i> and mixed weedy grasses	Good
Photo 8:	Wetland 14986 outside Project Area (Facing West)		<i>Corymbia calophylla</i> and <i>Melaleuca preissiana</i> over <i>Jacksonia sternbergiana</i> , <i>Acacia pulchella</i> and <i>Astartea scoparia</i> over <i>Watsonia meriana</i> and mixed weedy grasses	Good



Photo No.	Conservation Wetland	Photo	Vegetation Description	Vegetation Condition (Keighery Scale)
Photo 9:	Wetland 14504 adjacent to Project Area (Facing West)		<i>Corymbia calophylla</i> over <i>Xanthorrhoea preissii</i> over * <i>Oxalis pes-caprae</i> and mixed grassy weeds	Degraded
Photo 10:	Wetland 14504 outside Project Area (Facing South)		<i>Corymbia calophylla</i> and <i>Eucalyptus marginata</i> over <i>Xanthorrhoea preissii</i> , <i>Kingia australis</i> and <i>Hakea lissocarpa</i> over <i>Morelotia octandra</i> , <i>Hibbertia hypericoides</i> and <i>Banksia dallanneyi</i>	Excellent



Wetland 14945

Wetland 14945, located between Bishop Road and Scott Road in Mundijong, comprises Manjedal Brook. Disturbances observed included high-intensity weed invasion — notably the Declared Pests Narrowleaf Cottonbush and Arum Lily — as well as previous land clearing and grazing. Within the Project Area, the vegetation is a mixed Flooded Gum (*Eucalyptus rudis*) and Swamp Paperbark (*Melaleuca raphiophylla*) woodland in Good condition; outside the Project Area, the same vegetation type also occurs in Good condition.

Wetland 14817

Wetland 14817, located on Mundijong Road in Mundijong, showed evidence of low intensity weed invasion, fire, previous clearing, and rubbish. Within the Project Area, the vegetation is a mixed Marri (*Corymbia calophylla*) and Madong (*Melaleuca preissiana*) woodland in Very Good condition. Outside the Project Area, the vegetation is a Flooded Gum (*Eucalyptus rudis*) and Swamp Sheoak (*Casuarina obesa*) woodland, also in Very Good condition.

Wetland 14986

Wetland 14986 is located on Wright Road in Mardella adjacent to the Kwinana to Bunbury rail line. Disturbances observed include low intensity weed invasion, fire, previous clearing, and rubbish. Within and outside the Project Area, the vegetation is a mixed Marri (*Corymbia calophylla*) and Madong (*Melaleuca preissiana*) woodland, with both areas in Good condition.

Wetland 14504

Wetland 14504 is located on Cardup Siding Road in Cardup, adjacent to Cardup Nature Reserve. Disturbances observed include low intensity weed invasion, fire, previous clearing, and rubbish. Within the Project Area, the vegetation is a Marri (*Corymbia calophylla*) woodland that is parkland-cleared with no native understorey, in Degraded condition. Outside the Project Area, the vegetation is a mixed Marri (*Corymbia calophylla*) and Jarrah (*Eucalyptus marginata*) woodland in Excellent condition."

4.0 Discussion and Recommendations

The current survey provides baseline data for five conservation listed wetlands within and adjacent to the Project Area. Vegetation condition across the wetlands ranged from Excellent to Degraded, with observed disturbances including weed invasion (both low and high intensity), fire, previous land clearing, grazing, and rubbish dumping. Declared Pest species recorded included Narrowleaf Cottonbush (*Gomphocarpus fruticosus*) and Arum Lily (*Zantedeschia aethiopica*).

Three wetlands intersect the Project Area, and two occur in close proximity within the Abernethy Road Bushland and Cardup Nature Reserve. In most cases, vegetation condition was similar inside and outside the Project Area, although Wetland 14504 exhibited a marked difference, with parkland-cleared, understorey-absent Marri woodland in Degraded condition inside the Project Area compared to Excellent condition Marri–Jarrah woodland outside.

As this assessment represents the first round of monitoring, it establishes a pre-impact benchmark against which future changes in vegetation condition and disturbance levels can be measured.

It is recommended that wetland monitoring be continued during the impact phase of the Project and after works are completed, using the same sites and methods to ensure comparability. Declared Pest species such as Narrowleaf Cottonbush and Arum Lily should be controlled where possible. Disturbance to wetland vegetation, particularly in areas of higher condition, should be minimised wherever practicable.



We trust this meets your requirements. Should you have any questions or require further action, please do not hesitate to contact the undersigned on (08) 9422 5900.

Regards,

SLR Consulting Australia



Sacha Ruoss
Principal Botanist – Ecology and Biodiversity



APPENDIX D – RESULTS OF SURFACE WATER MONITORING

Parameters												
Location	US / DS	Location ID	Date	Temperature	DO %	DO mg/L	SPC	TDS mg/L	pH	ORP mV	Turbidity	Observations
				°C	%	mg/L	uS/cm	mg/L	pH units	mV	NTU	
Beenyup			Jan-26									No water to test, inspected during monthly vegetation monitoring
Cardup			Jan-26									No water to test, inspected during monthly vegetation monitoring
Mandejal			Jan-26									No water to test, inspected during monthly vegetation monitoring
Medulla			Jan-26									No water to test, inspected during monthly vegetation monitoring
Oaklands			Jan-26									No water to test, inspected during monthly vegetation monitoring
Unnamed Tributary 1			Jan-26									No water to test, inspected during monthly vegetation monitoring
Unnamed Tributary 2			Jan-26									No water to test, inspected during monthly vegetation monitoring
Beenyup			Mar-26									No water to test, inspected during monthly vegetation monitoring
Cardup			Mar-26									No water to test, inspected during monthly vegetation monitoring
Mandejal			Mar-26									No water to test, inspected during monthly vegetation monitoring
Medulla			Mar-26									No water to test, inspected during monthly vegetation monitoring
Oaklands			Mar-26									No water to test, inspected during monthly vegetation monitoring
Unnamed Tributary 1			Mar-26									No water to test, inspected during monthly vegetation monitoring
Unnamed Tributary 2			Mar-26									No water to test, inspected during monthly vegetation monitoring
Beenyup			13.04.2026									No water to test
Cardup	DS		13.04.2026	21.7	106.6	9.35	791	514	8.37	102.2	511.76	
Mandejal			13.04.2026									No water to test
Medulla			13.04.2026									No water to test
Oaklands			13.04.2026									No water to test
Unnamed Tributary 1	DS		13.04.2026	22.2	106.3	9.24	935	608	8.57	93.4	6.06	
Unnamed Tributary 2	DS		13.04.2026	21.4	93.8	8.27	1094	711	8.51	103	3.92	
Beenyup			20.04.2026									No water to test
Cardup	DS		20.04.2026	17.5	38.2	3.65	842	547	7.99	69.8	180.77	
Mandejal			20.04.2026									No water to test
Medulla			20.04.2026									No water to test
Oaklands	DS		20.04.2026	22.3	97.1	8.42	795	517	8.07	110.2	33.04	
Unnamed Tributary 1	DS		20.04.2026	19.4	134.2	12.31	971	631	8.79	85.8	67.28	
Unnamed Tributary 1	US		20.04.2026	21.5	127.7	11.25	882	574	8.73	80.2	2206.05	
Reading Difference ((Unnamed Trib 1)				-2.1	6.5	1.06	89	57	0.06	5.6	-2138.77	
Unnamed Tributary 2	DS		20.04.2026	19.7	99.8	9.11	711	462	8.66	79.4	1.15	
Beenyup			28/04/2026									No water to test
Cardup	DS		28/04/2026	16.3	50.6	4.95	802	522	8.15	103.5	270.09	
Cardup	US		28/04/2026	17.7	94.3	8.96	679	441	0.91	69.1	229.49	
Reading Difference (Cardup)				-1.4	-43.7	-4.01	123	81	7.24	34.4	40.6	
Mandejal			28/04/2026									No water to test
Medulla			28/04/2026									No water to test
Oaklands	DS		28/04/2026	16.8	89	8.62	643	418	8.03	132.3	100.15	
Unnamed Tributary 1	DS		28/04/2026	17.7	104.1	9.91	533	347	8.28	114.7	13.62	
Unnamed Tributary 2	DS		28/04/2026	17.8	50.9	4.84	550	358	8.91	90.4	9.93	
Beenyup	US		5/05/2026	17	126	12.15	960	624	8.46	100.7	84.93	
Cardup	US		5/05/2026	14.9	47.5	4.79	723	470	8.18	98	280.83	
Mandejal			5/05/2026									No water to test
Medulla			5/05/2026									No water to test
Oaklands			5/05/2026									No water to test
Unnamed Tributary 1			5/05/2026									No water to test
Unnamed Tributary 2	DS		5/05/2026	17.3	92	8.82	760	494	8.78	89.5	10.83	
Beenyup	DS		8/05/2026	19.4	33.9	3.09	2874	1868	7.92	81.1	17.51	
Beenyup	US		8/05/2026	20.3	101.5	9.18	51.1	33	7.49	50.7	10.91	
Reading Difference (Beenyup)				-0.9	-67.6	-6.09	2822.9	1835	0.43	30.4	6.6	Elevated conductivity/TDS and reduced dissolved oxygen were recorded within stagnant pooled water, likely associated with prolonged residence time and reduced aeration.
Cardup			8/05/2026									No water to test
Mandejal			8/05/2026									No water to test
Medulla			8/05/2026									No water to test
Oaklands	DS		8/05/2026	16.1	89.9	8.82	1287	836	8.03	10.6	62.49	
Unnamed Tributary 1	DS		8/05/2026	15.3	87.5	8.73	995	647	8.39	102.4	39.84	
Unnamed Tributary 2	DS		8/05/2026	14.7	67.6	6.84	834	542	9.08	85.6	49.72	
Cardup			11/05/2026									No water to test
Mandejal			11/05/2026									No water to test
Medulla			11/05/2026									No water to test
Oaklands	DS		11/05/2026	17.2	118	11.24	3095	2011	7.98	112.7	6.27	
Unnamed Tributary 1	DS		11/05/2026	15.3	87.5	8.73	995	647	8.39	102.4	39.84	
Unnamed Tributary 2	DS		11/05/2026	14.7	67.6	6.84	834	542	9.08	85.6	49.72	
Cardup			22/05/2026									No water to test
Mandejal			22/05/2026									No water to test
Medulla			22/05/2026									No water to test
Oaklands	DS		22/05/2026	17.2	118	11.24	3095	2011	7.98	112.7	6.27	
Unnamed Tributary 1	DS		22/05/2026	15.1	116.7	11.7	1343	873	8.56	84.9	33.31	
Unnamed Tributary 2	DS		22/05/2026	17.9	105.1	9.94	769	500	9.8	42.8	21	

APPENDIX E – EXAMPLES OF VEGETATION CONDITION PHOTO MONITORING

Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



OFFICIAL

Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event



Appendix E – March 2026 Wetland Photo Monitoring Event

