Annual Compliance Report - Year 3 (EPBC 2018/8166)

Harvest Estate, Byron Bay (EPBC 2018/8166)

Prepared for Villa World Byron Pty Ltd

By Planit Consulting Pty Ltd

v.1 - October 2025

Job No: J7148

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Document Control

Document	Annual Compliance Report – Year 3
Project Name	Harvest Estate, West Byron
Client	Villa World Byron Pty Ltd
Planit Reference	J7148
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Revision History

Revision	Date	Prepared By	Reviewed By	Approved By
v.1	27/10/2025	Tomy Rados	Giuseppe Fallara	Tomy Rados

Approval Details

Approved By	Tomy Rados
Email	tomy@planitconsulting.com.au
Signature	

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1 Introduction and Background

Villa World Byron P/L has engaged Planit Consulting to prepare an Annual Compliance Report for the Harvest Estate located within the West Byron Urban Release Area, Byron Bay (refer to **Figure 1**).

Harvest Estate is an approved 149 allotment residential subdivision which also comprises of the creation of 7 green infrastructure lots, together with associated works including vegetation removal, earthworks, landscaping, creation of public reserves, roads, environmental management and protection and stormwater works.

Harvest Estate was referred under the *Environment Protection and Biodiversity Conservation Act* and determined to be a 'controlled action' under the provisions of sections 18/18A (listed threatened species and communities) of the Act (EPBC 2018/8166). The assessment process determined by the then Department of Environment and Energy (DoEE) was that the project would be assessed by referral information.

On 6th July 2018 the Harvest Estate residential development was granted approval under sections 130(1) and 133 of the EPBCA subject to conditions.

The purpose of this document is to demonstrate that there has been compliance with the conditions of the EPBC approval for the Project (EPBC 2018/8166) and to satisfy Condition 8 of that approval, which states:

> *The approval holder must prepare a compliance report for each 12-month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must:*
>
> *a. publish each compliance report on the website within 60 business days following the relevant 12-month period,*
>
> *b. notify the department by email that a compliance report has been published on the website and provide the weblink for the compliance report within 5 business days of publication, and*
>
> *c. keep all compliance reports publicly available on the website until this approval expires.*

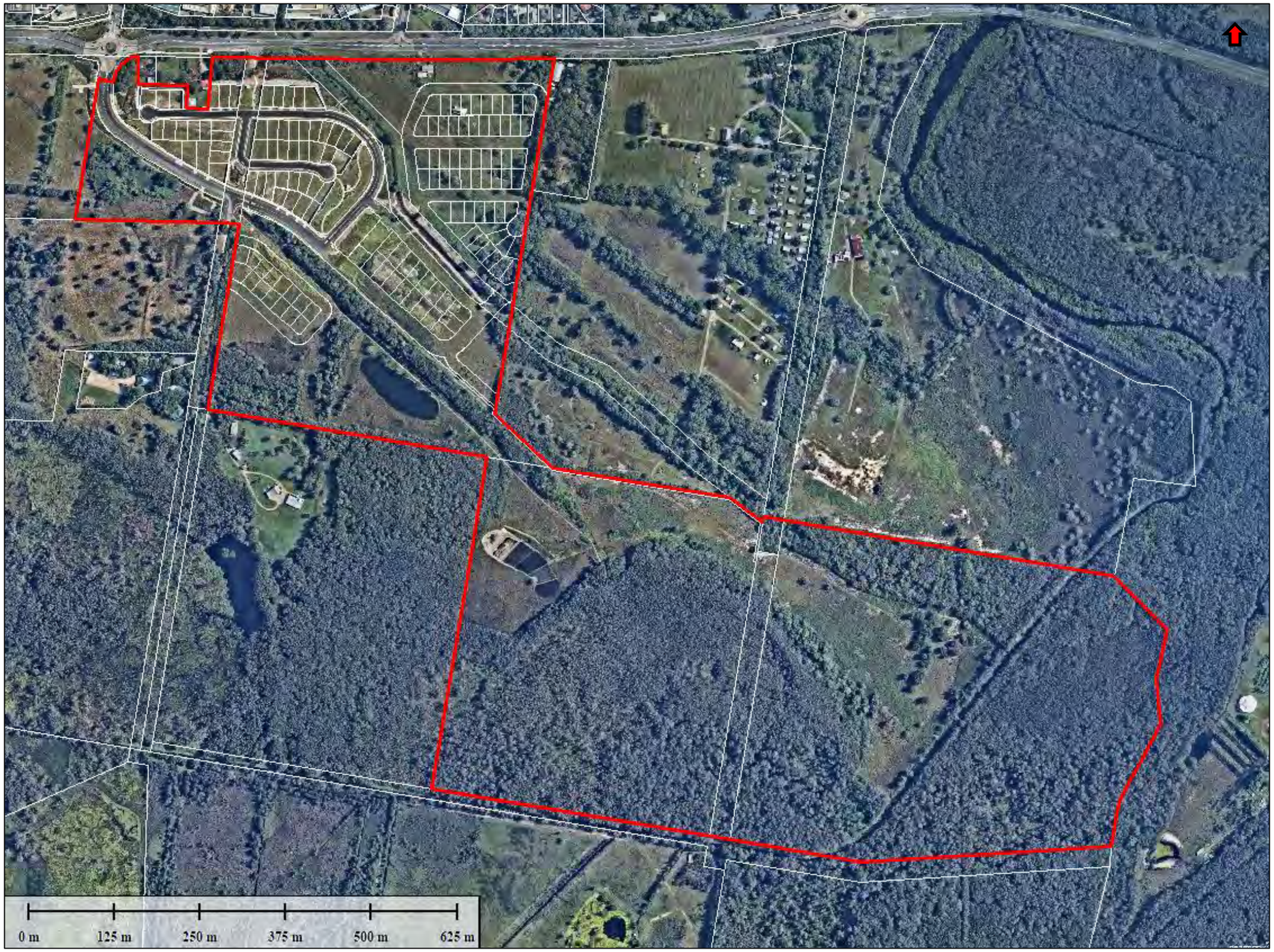


Figure 1: Harvest Estate Aerial Photograph (Nearmap 2024)

1.1 Terms, Definitions and Acronyms

The following terms are used within this report:

ACR: means Annual Compliance Report

Annual Compliance Report Guidelines/ACR Guidelines: means DCCEEW (2023) *Annual Compliance Report Guidelines*. Commonwealth of Australia.

Approval/EPBC Act Approval: means EPBC 2018/8166 approval for the Harvest Estate.

Approval holder: means the person to whom the approval is granted, or any person acting on their behalf, or to whom approval is transferred under section 145B of the EPBC Act. For this offset under EPBC 2018/8166 the approval holder is Villa World Byron Pty Ltd.

BSC: Byron Shire Council.

Contractor/sub-contractor: means a party or company appointed by the proponent that performs works on site, and includes all employees of the Contractor and its sub-contractors, e.g. machinery operators, bush regenerators, spotter catchers etc.

Commence / commenced / commencement of construction: means any physical works associated with the action, excluding fences and signage.

Construction: means the clearing of land and creation of residential allotments, roadways and infrastructure services (sewerage, electricity, water, stormwater) associated with the action. This does not include preparatory works.

Date of commencement: 29th August 2023

Department/DoEE/DCCEEW: the Australian Government Department administering the EPBC Act.

Development or action: To develop the Harvest Estate staged master planned residential community within the West Byron Urban Release Area in Byron Bay, NSW..

EPBC Act: the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Existing Habitat: means the areas represented in Attachment B of the EPBC Act Approval by the zones enclosed within the blue solid lines labelled 'PROTECTED FROG HABITAT ZONES'.

Habitat creation areas: means the areas represented in Attachment B of the EPBC Act Approval by the black hatched shaded polygons labelled 'HABITAT CREATION AREAS FOR ACID FROGS'.

Harvest Estate: the development or action being a residential estate and all associated ancillary works necessary for establishment.

NES: means National Environmental Significance.

Project Area: means the location of the action, represented by the area enclosed within the red lines labelled 'SUBJECT LAND' in Attachment B of the EPBC Act Approval.

Proponent: the approval holder.

Rehabilitation Plan: means the document: Australian Wetlands Consultancy (2021) *Acid Frog Management Plan, 'Harvest Estate ', West Byron Urban Release Area, Ewingsdale Road, Byron Bay*, prepared for Tower Holdings Pty Ltd, dated 18 October 2021, or a version revised in accordance with this approval.

Wallum Sedge Frog: means the EPBC Act listed threatened species *Litoria olongburenses*, also known as the Olongburra Frog.

Year 3: The period from 29th August 2024 to 29th August 2025.

2 EPBC Approval Details & Descriptions of Activities

2.1 Project Background

The Project was referred to the then Department of Environment and Energy (DoEE) for assessment on 25th February 2018. The referred Project incorporated a staged master planned residential community, involving 282 lots and a development footprint of approximately 27.8 ha (refer to **Figure 2**).

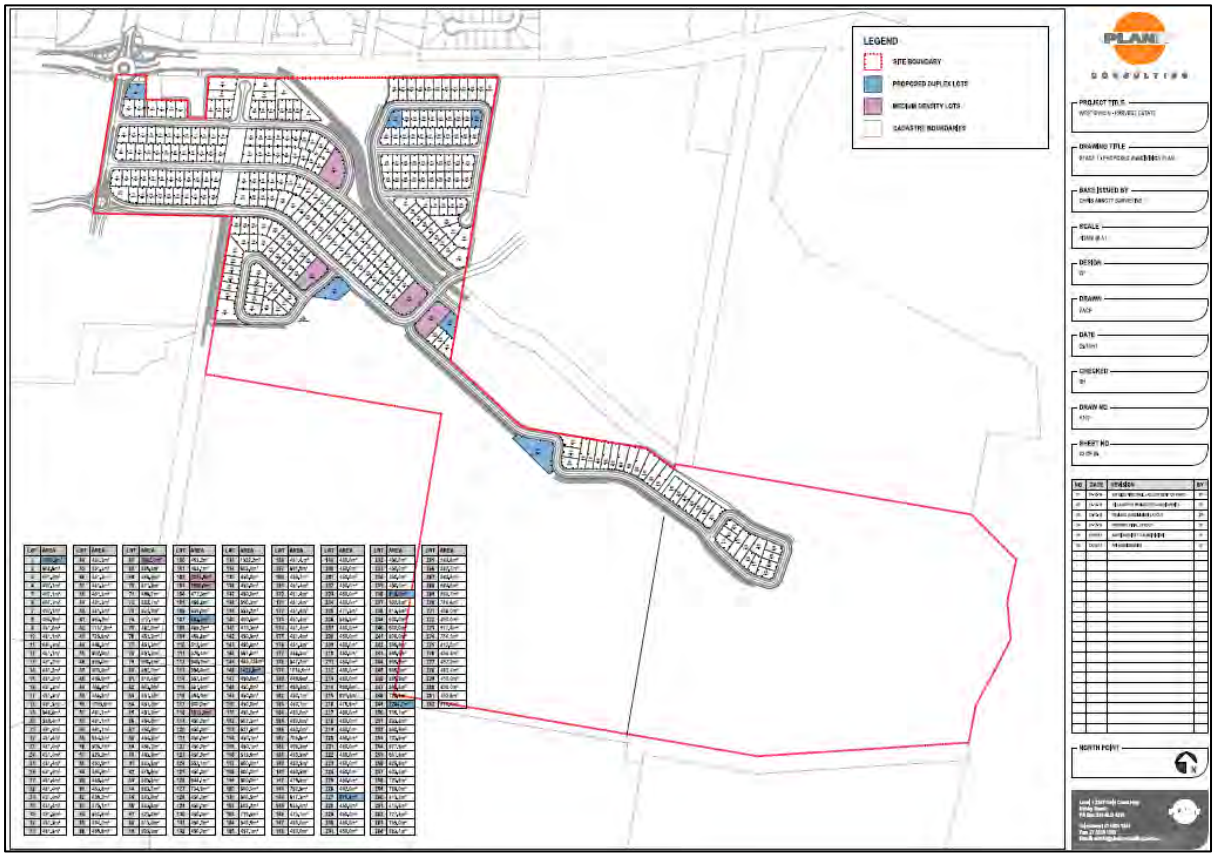


Figure 2: Original Harvest Estate Subdivision Plan (Provided with EPBC 2018/8166)

On the 29th March 2018, the Department advised that the Project would be a controlled action and would require assessment and approval under the EPBC Act before it could proceed. The relevant controlling provisions being listed threatened species and community (sections 18 & 18A). Following assessment, the Project was approved by the Department subject to conditions dated 6th July 2018.

During this time, the development application was in the process of being reviewed and determined by Byron Shire Council. The development was officially refused by Council on 8th April 2019 due to a variety of factors. This refusal occurred post the original EPBC Act determination.

The development was then modified and significantly reduced its development footprint and yield. The proposal was reduced from 282 lots and a development footprint of ~27.8 ha, to 149 lots and a development footprint of ~16 ha (refer to **Figure 3**).

Approval was eventually granted by the Land and Environment Court of NSW by way of a Section 34 Agreement on 8th December 2020 (Villa World Byron Pty Ltd v Byron Shire Council - LEC No. 2019/00310612) for the delivery of the Harvest Estate.

A summary of the Harvest Estate development details is provided below:

Table 1: Approved Harvest Estate Development Details

Approval Information	
Applicant	Villa World Byron Pty Ltd
Address	342 Ewingsdale Road, 22A and 22B Melaleuca Drive, Byron Bay
Development Consent Description	Staged subdivision of 9 lots into 149 residential lots (comprised of 145 smaller residential lots and 4 large lifestyle lots) and the creation of 7 green infrastructure lots, together with associated works including vegetation removal, earthworks, landscaping, creation of public reserves, roads, environmental management and protection and stormwater works at 342 Ewingsdale Road, 22A and 22B Melaleuca Drive, Byron Bay
Local Government Approval Reference	Development Consent 10.2017.201.1 (Villa World Byron Pty Ltd v Byron Shire Council - LEC No. 2019/00310612)
Modification Consent Description	Development Consent 10.2017.201.1 S4.56 Modification to amend staging and timeframes Determination Date 4th November 2021
EPBC Act Approval Reference	EPBC 2018/8166

Harvest Estate will be developed in accordance with the subdivision approval as depicted above.

Additionally, the development shall also be conducted in accordance with EPBC 2018/8166 Villa World Byron P/L dated 8 November 2022 which requires the approval holder to conduct a variety of activities in accordance with the conditions stipulated within the approval and this document.

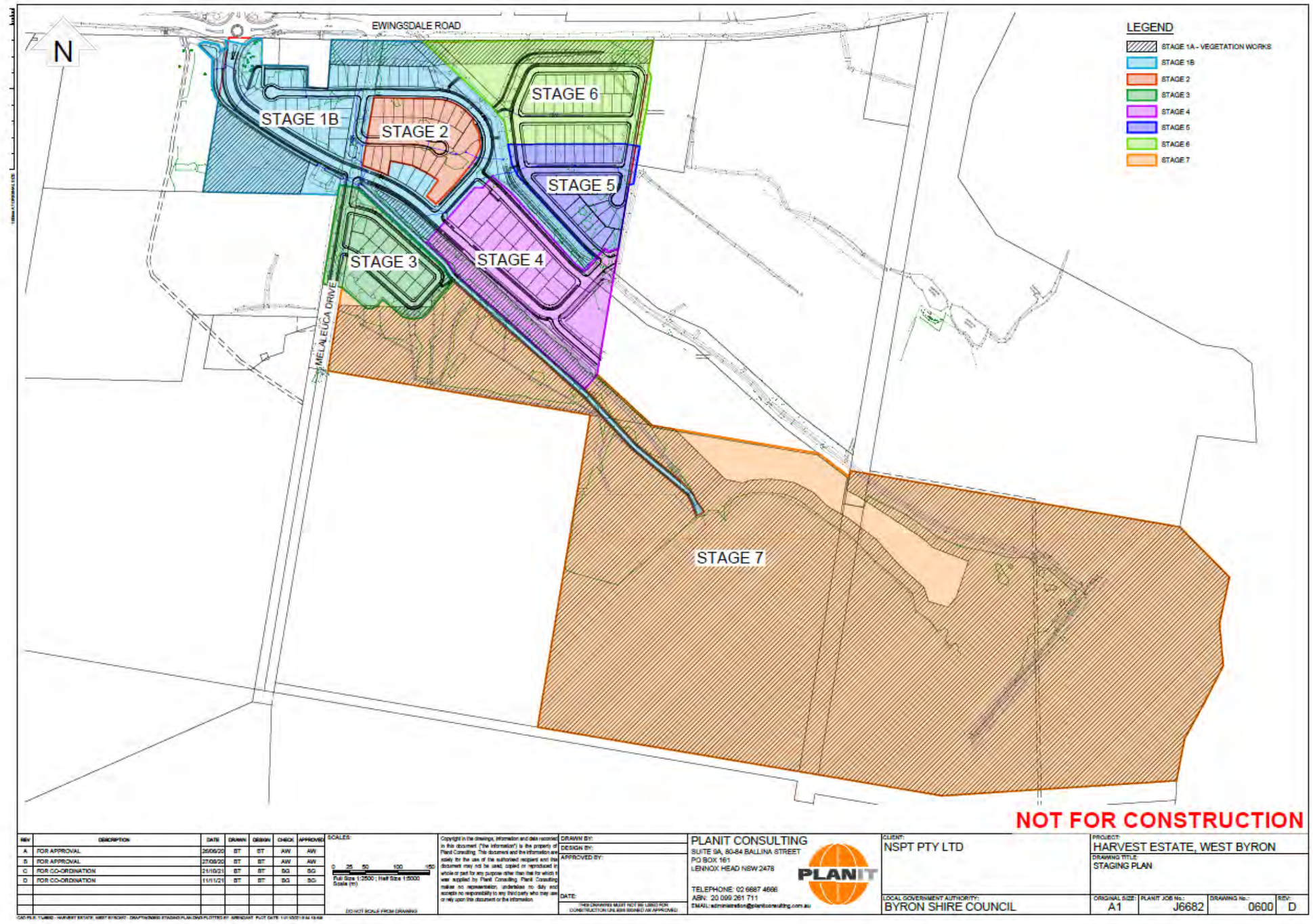


Figure 3: Current Approved Harvest Estate Layout

2.2 Description of Activities Prior to and Within Year 2 and Key Dates

The following key dates are provided with regard to development activities relevant to Year 2 of project monitoring:

- Variation to EPBC Act approval – 8 November 2022
- Notification of commencement of construction to DCCEEW – 29 August 2022
- First Annual Compliance Report provided – 21 November 2023
- Second Annual Compliance Report provided – 28 October 2024
- Third Annual Compliance Report due date – 22 November 2025

Subsequent to the commencement of the action the following activities have occurred (within Years 1-3):

- Clearing of vegetation has occurred from the first portions of the Harvest Estate from within numbered stages 1B and 2 in accordance with the Development Consent (10.2017.201.1).
- Installation of sediment and erosion control devices;
- Construction activities (i.e. earthworks) associated with stages 1B and 2;
- Civil infrastructure (i.e. construction of roads, building pads, stormwater infrastructure, electricity, sewerage etc.) associated with stages 1B and 2;
- Landscaping associated with stages 1B and 2;
- Rehabilitation/Restoration Works within retained Rehabilitation Zones;
- Continuous monitoring and maintenance; and
- Creation of frog breeding habitat areas within Rehabilitation Zones 2 and 3.

The following images are relevant to the Year 3 site activity:



Rehabilitation Zone 1: Baseline Survey



Rehabilitation Zone 1: End Year 3



Rehabilitation Zone 3: Baseline Survey



Rehabilitation Zone 3: End Year 3



Retained Frog Habitat Rehabilitation Zone 6: Baseline Survey



Retained Frog Habitat Rehabilitation Zone 6: End Year 3



Created Frog Habitat Area Rehabilitation Zone 3: End Year 2



Created Frog Habitat Area Rehabilitation Zone 2: End Year 3



Several Trees Have Fallen within the Rehabilitation Zones, Likely from Cyclone Alfred



Vegetation Protection Fencing and Signages Installed Externally to the Retained Frog Habitat Zone



Koala Scat Recorded within Zone 6 During Annual Spring/Summer Survey Efforts



Treated Camphor Laurel within Retained Frog Habitat Area [Breaking Apart]



Frog Fencing Installed Between Frog Habitat Zones



Nestboxes Installed within Rehabilitation Zone 6

3 EPBC 2018/8166 Approval Condition Compliance

This section addresses the status and compliance of the action against the conditions imposed within the EPBC Act Approval 2015/8166 for the third reporting period between 29th August 2024 and 29th August 2025. Details on the status of compliance have been tabulated for conditions under EPBC Act Approval 2018/8166 as follows:

- **Table 2** – EPBC Act Approval 2018/8166 Conditions – Compliance Assessment Table

For each column below, the approval condition or management measure is provided with a note on its status of compliance, a general comment and related source of evidence as relevant. The DCCEEW have prepared guidance (Annual Compliance Report Guidelines, 2023) related to the preparation of compliance audits, including generic expressions that are used to identify the status of each item (DCCEEW, 2023 Section 3.7):

The following designations must be used to record findings in compliance reports:

Compliant
'Compliance' is achieved when all the requirements of a condition have been met, including the implementation of management plans or other measures required by those conditions.

Non-compliant
A designation of 'non-compliant' must be given where the requirements of a condition or elements of a condition, including the implementation of management plans and other measures, have not been met.

Not applicable
A designation of 'not applicable' must be given where the requirements of a condition or elements of a condition fall outside of the scope of the current reporting period. For example, a condition that applies to an activity that has not yet commenced.

Table 2: EPBC 2018/8166 Approval Conditions Compliance Table

Condition No.	Approval Condition	Condition Currently Triggered?	Compliance?	Comments and Supporting Documentation
1	To avoid impacts to the Wallum Sedge Frog, the person taking the action must retain all existing habitat within the project area.	Yes.	Compliant.	The frog habitat zones have been retained and protected during the Year 3 reporting period. The frog habitat zones have been regularly monitored and maintained during the Year 3 period.
2	Revoked as a part of the variation dated 8 November 2022.	Not applicable.	Not applicable.	Not applicable.
3	Revoked as a part of the variation dated 8 November 2022.	Not applicable.	Not applicable.	Not applicable.
4	Revoked as a part of the variation dated 8 November 2022.	Not applicable.	Not applicable.	Not applicable.
5	The person taking the action must implement the Rehabilitation Plan for the life of this approval. In accordance with the Appendix A of the Rehabilitation Plan, the person taking the action must, by 30 June 2028, establish at least: a. 0.64 ha of Wallum Sedge Frog breeding habitat in the habitat creation areas, and b. 4.77 ha of Wallum Sedge Frog movement/foraging habitat in the habitat creation areas. The habitat creation areas must be maintained and monitored to achieve the performance criteria specified in section 5.4 of the Rehabilitation Plan for, at least, the life of the approval.	Not applicable.	Not applicable.	The 4.77 ha of Wallum Sedge Frog movement/foraging habitat in the habitat creation areas have been subject to restoration/rehabilitation works and is regularly maintained and monitored as per the Rehabilitation Plan, as well as other management plans approved as a part of the Harvest Estate development approval (Development Consent 10.2017.201.1). The created frog breeding habitat areas were constructed over a four-week period in September-October 2023 within rehabilitation zones 2 and 3. Transplantation of native species occurred which covers approximately 20% of the area. The ponds were then infilled with native wetland species in the following months during ideal conditions and have since become well-established. The monitoring efforts have noted that the frog ponds are establishing nicely and have regularly met the performance criteria. Although Wallum Sedge Frogs are yet to be recorded within these newly created frog pongs, other native species of amphibians are regularly recorded, including the Wallum Froglet (Vulnerable under the NSW *Biodiversity Conservation Act 2016*). Once the plantings establish further and become denser, these created frog ponds will become ideal habitat for the Wallum Sedge Frog. As summary of the Year 3 monitoring efforts are provided within **Appendices 2** and **3**.
6	Within 20 business days after the commencement of the action, the person taking the action must advise the Department in writing of the actual date of commencement.	Yes.	Compliant.	The Project commenced on 29 August 2022. The Department was notified regarding the commencement date and confirmed commencement by way of return correspondence dated 16 September 2022.
7	The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.	Yes.	Compliant.	The approval holder records and holds all relevant information for this EPBC Act approval which can be made available upon request.
8	The approval holder must prepare a compliance report for each 12-month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must: a. publish each compliance report on the website within 60 business days following the relevant 12-month period, b. notify the department by email that a compliance report has been published on the website and provide the weblink for the compliance report within 5 business days of publication, and	Yes.	Compliant.	The Project commenced on 29 August 2022. As such, the compliance report must be prepared and published by 22 November 2025. This report has been prepared to satisfy this condition and will be published on Planit Consulting's website (https://planitconsulting.com.au/projects/harvest-estate/) prior to 22 November 2025.

Condition No.	Approval Condition	Condition Currently Triggered?	Compliance?	Comments and Supporting Documentation
	c. keep all compliance reports publicly available on the website until this approval expires.			
9	Unless otherwise agreed to in writing by the Minister, the person taking the action must publish all plans and agreements referred to in these conditions of approval on their website. Each plan and agreement must be published on the website within 1 month of being approved by the Minister or being submitted under condition 11. Plans and agreements must remain published for the life of the approval. Plans and agreements must continue to be published unless otherwise agreed to by the Minister in writing.	Yes.	Compliant.	The EPBC Act Approval and approved Rehabilitation Plan is published on Planit Consulting's website (https://planitconsulting.com.au/projects/harvest-estate/). The Plans and agreements will remain published for the life of the approval unless otherwise agreed to by the Minister in writing.
10	If, at any time after five (5) years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the Minister.	Not applicable.	Not applicable	The Project substantially commenced on 29 August 2022 which is within 5 years of the date of the approval.
11	The person taking the action may choose to revise the Rehabilitation Plan approved by the Minister without submitting it for approval under section 143A of the EPBC Act, if the taking of the action in accordance with the revised plan would not be likely to have a new or increased impact. If the person taking the action makes this choice they must: a. Notify the Department in writing that the approved plan has been revised and provide the Department with an electronic copy of the revised plan. b. Implement the revised plan from the date that the plan is submitted to the Department. For the life of this approval, maintain a record of the reasons the approval holder considers that taking the action in accordance with the revised plan would not be likely to have a new or increased impact.	Not applicable.	Not applicable	The Rehabilitation Plan has not been revised since the variation approval by the Department on 8 November 2022.
12	The person taking the action may revoke their choice under condition 11 at any time by notice to the Department. If the person taking the action revokes the choice to implement a revised plan without approval under section 143A of the EPBC Act, the plan approved by the Minister must be implemented.	Not applicable	Not applicable	Not applicable.
13	If the Minister gives a notice to the person taking the action that the Minister is satisfied that the taking of the action in accordance with the revised plan would be likely to have a new or increased impact, then: a. Condition 11 does not apply, or ceases to apply, in relation to the revised plan; and b. The person taking the action must implement the plan approved by the Minister. To avoid any doubt, this condition does not affect any operation of conditions 11 and 12 in the period before the day the notice is given.	Not applicable	Not applicable	No notice was provided by the Minister under this condition during the reporting period.

Condition No.	Approval Condition	Condition Currently Triggered?	Compliance?	Comments and Supporting Documentation
	At the time of giving the notice the Minister may also notify that for a specified period of time that condition 11 does not apply for one or more specified plans required under the approval.			
14	Conditions 11, 12, and 13 are not intended to limit the operation of section 143A of the EPBC Act which allows the person taking the action to submit a revised plan to the Minister for approval.	Not applicable	Not applicable.	The Rehabilitation Plan has not been revised since the variation approval by the Department on 8 November 2022.
15	The approval holder must notify the Department electronically, within 2 business days of becoming aware of any incident and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a plan. The approval holder must specify in the notification: a. any condition or commitment made in a plan which has been or may have been breached. b. a short description of the incident and/or potential non-compliance and/or actual non-compliance. c. the location (including co-ordinates), date, and time of the incident and/or potential non-compliance and/or actual non-compliance. Note: If the exact information cannot be provided, the approval holder must provide the best information available.	Yes.	Compliant.	There have been no notifiable incidents or non-compliance during the reporting period. The Project is therefore complaint with this condition.
16	The approval holder must provide to the Department in writing, within 12 business days of becoming aware of any incident and/or potential non-compliance and/or actual non-compliance, the details of that incident and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a plan. The approval holder must specify: a. any corrective action or investigation which the approval holder has already taken b. the potential impacts of the incident and/or non-compliance and/or non-compliance c. the method and timing of any corrective action that will be undertaken by the approval holder.	Yes.	Compliant.	There have been no notifiable incidents or non-compliance during the reporting period. The Project is therefore complaint with this condition.

3.1 Correcting Non-compliance

No incidences of non-compliance have been identified in Year 3.

4 New Environmental Risks

A small section of wall between the Rehabilitation Zone 2 frog pond and the Council owned stormwater swale collapsed (~1.5m section) sometime in July/August 2025. This was made aware on 11 August 2025 with both Byron Shire Council and the contractor immediately notified. The section of wall was quickly repaired (14 August 2025) which involved sandbags wrapped in geofabric material to close the gap.

Subsequent inspections confirms that the fix was successful, and the sandbag wall remains intact and prevents swale water from entering the frog pond. The wall will be routinely inspected to ensure no further failures occur.

No other new environmental risks have been identified in Year 3.



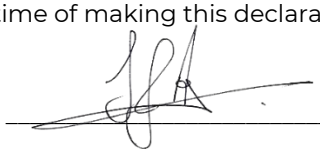
Wall Collapse Between RZ 2 Frog Pond and Swale (11 August 2025)



Wall Repaired and Intact as of 23 September 2025

5 Declaration of Accuracy

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed 

Full Name (please print) Terrence Agnew

Position (please print) Director

Organisation (please print including ABN/CAN if applicable) Villa World Byron Pty Ltd

Date 24 / 10 / 2025

Appendix A – EPBC Act Approval (EPBC 2018/8166)

Australian Government
Department of Climate Change, Energy, the Environment and Water

Ref: 2018/8166

Mr. Anthony Aiossa
Chief Executive Officer
Tower Holdings Pty Limited
via: anthony@towerholdings.com.au

Harvest Estate, West Byron Urban Release Area, Ewingsdale Road, Byron Bay, NSW
Variation to Conditions and approval of revised Rehabilitation Plan - EPBC 2018/8166

Dear Mr Aiossa

Thank you for your correspondence, via Planit Consulting, dated 1 August 2022 requesting the variation of conditions attached to the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act) approval, and approval of the revised Rehabilitation Plan.

Officers of this department have reviewed the variation request relating to impacts to the Wallum Sedge Frog. As delegate of the Minister for the Environment, I have varied the conditions attached to EPBC Act approval 2018/8166 under section 143(1)(c) of the EPBC Act. The action must now be undertaken in accordance with the varied conditions specified in the variation notification, which has been attached for your information.

Officers of the department have advised me on the revised Rehabilitation Plan: Australian Wetlands Consultancy (2021) *Acid Frog Management Plan, 'Harvest Estate', West Byron Urban Release Area, Ewingsdale Road, Byron Bay*, prepared for Tower Holdings Pty Ltd, dated 18 October 2021. On this basis of this advice, and as a delegate of the Minister for the Environment, I have decided to approve the plan. This plan must now be implemented.

As you are aware, the department has an active monitoring program which includes monitoring inspections, desk top document reviews and audits. Please ensure that you maintain accurate records of all activities associated with, or relevant to, the conditions of approval so that they can be made available to the department on request.

Should you require any further information please contact the Post Approvals Section by email via postapproval@dcceew.gov.au.

Yours sincerely

Kim Farrant
Branch Head
Environment Assessments (Vic, Tas) and Post Approvals Branch
Environment Approvals Division

8 November 2022

Att. Variation Notice

VARIATION OF CONDITIONS ATTACHED TO APPROVAL

Harvest Estate, West Byron Urban Release Area, Ewingsdale Road, Byron Bay, NSW (EPBC 2018/8166)

This decision to vary conditions of approval is made under section 143 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

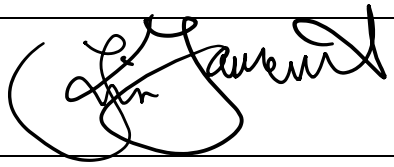
Approved action

Approval holder	**Name:** Villa World Byron Pty Ltd **ACN:** 612 247 195
Approved action	To develop the Harvest Estate staged master planned residential community within the West Byron Urban Release Area in Byron Bay, NSW [See EPBC Act referral 2018/8166]

Variation

Variation of conditions attached to approval	The variation is: Delete conditions 1, 5 and 8 attached to the approval and substitute with the conditions 1, 5 and 8 specified in the table below Delete definitions of **Existing habitat**, **Minister**, **Rehabilitation Plan** and **Wallum Sedge Frog** attached to the approval and substitute with the definitions of **Existing habitat**, **Minister**, **Rehabilitation Plan** and **Wallum Sedge Frog** specified in the table below Delete Attachment B attached to the approval and substitute with the Attachment B specified in the table below Add new conditions 15 and 16 specified in the table below Add new definitions of **Business day**, **Clear, cleared or clearing**, **Compliance reports**, **EPBC Act**, **Habitat creation areas**, **Impact**, **Incident**, **Project area**, **Plan** and **Website** specified in the table below Revoke conditions 2, 3 and 4 Revoke the definitions of **BioBanking Statement** and **Statement of assessment of reasonable equivalence of biodiversity credits** Revoke Attachment A and Attachment C.
Date of effect	This variation has effect on the date this instrument is signed

Person authorised to make decision

Name and position	Kim Farrant Branch Head Environment Assessments (Vic, Tas) and Post Approvals Branch
Signature	
Date of decision	8 November 2022

Date of decision	Conditions attached to approval
As varied on the date this instrument was signed	1. To avoid impacts to the **Wallum Sedge Frog**, the person taking the action must retain all **existing habitat** within the **project area**.
As varied on the date this instrument was signed	2. **REVOKED**
As varied on the date this instrument was signed	3. **REVOKED**
As varied on the date this instrument was signed	4. **REVOKED**
As varied on the date this instrument was signed	5. The person taking the action must implement the **Rehabilitation Plan** for the life of this approval. In accordance with the Appendix A of the **Rehabilitation Plan**, the person taking the action must, by 30 June 2028, establish at least: a. 0.64 ha of **Wallum Sedge Frog** breeding habitat in the **habitat creation areas**, and b. 4.77 ha of **Wallum Sedge Frog** movement/foraging habitat in the **habitat creation areas**. The **habitat creation areas** must be maintained and monitored to achieve the performance criteria specified in section 5.4 of the **Rehabilitation Plan** for, at least, the life of the approval.
Original dated 6/7/2018	6. Within 20 business days after the **commencement** of the action, the person taking the action must advise the **Department** in writing of the actual date of **commencement**.
Original dated 6/7/2018	7. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.
Annual compliance reporting	
As varied on the date this instrument was signed	8. The approval holder must prepare a **compliance report** for each 12-month period following the date of **commencement** of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the **Minister**. The approval holder must:

Date of decision	Conditions attached to approval
	a. publish each **compliance report** on the **website** within 60 **business days** following the relevant 12-month period, b. notify the **department** by email that a **compliance report** has been published on the **website** and provide the weblink for the **compliance report** within 5 **business days** of publication, and c. keep all **compliance reports** publicly available on the **website** until this approval expires. **Note**: **Compliance reports** may be published on the **Department**'s website.
Original dated 6/7/2018	9. Unless otherwise agreed to in writing by the **Minister**, the person taking the action must publish all plans and agreements referred to in these conditions of approval on their website. Each plan and agreement must be published on the website within 1 month of being approved by the **Minister** or being submitted under condition 11. Plans and agreements must remain published for the life of the approval. Plans and agreements must continue to be published unless otherwise agreed to by the **Minister** in writing.
Original dated 6/7/2018	10. If, at any time after five (5) years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the **Minister**.
Revision of plan	
Original dated 6/7/2018	11. The person taking the action may choose to revise the **Rehabilitation Plan** approved by the **Minister** without submitting it for approval under section 143A of the EPBC Act, if the taking of the action in accordance with the revised plan would not be likely to have a **new or increased impact**. If the person taking the action makes this choice they must: a. Notify the **Department** in writing that the approved plan has been revised and provide the **Department** with an electronic copy of the revised plan. b. Implement the revised plan from the date that the plan is submitted to the **Department**. For the life of this approval, maintain a record of the reasons the approval holder considers that taking the action in accordance with the revised plan would not be likely to have a **new or increased impact**.
Original dated 6/7/2018	12. The person taking the action may revoke their choice under condition 11 at any time by notice to the **Department**. If the person taking the action revokes the choice to implement a revised plan without approval under

Date of decision	Conditions attached to approval
	section 143A of the **EPBC Act**, the plan approved by the **Minister** must be implemented.
Original dated 6/7/2018	13. If the **Minister** gives a notice to the person taking the action that the **Minister** is satisfied that the taking of the action in accordance with the revised plan would be likely to have a **new or increased impact**, then: a. Condition 11 does not apply, or ceases to apply, in relation to the revised plan; and b. The person taking the action must implement the plan approved by the **Minister**. To avoid any doubt, this condition does not affect any operation of conditions 11 and 12 in the period before the day the notice is given. At the time of giving the notice the **Minister** may also notify that for a specified period of time that condition 11 does not apply for one or more specified plans required under the approval.
Original dated 6/7/2018	14. Conditions 11, 12, and 13 are not intended to limit the operation of section 143A of the **EPBC Act** which allows the person taking the action to submit a revised plan to the **Minister** for approval.
Reporting non-compliance	
As varied on the date this instrument was signed	15. The approval holder must notify the **Department** electronically, within 2 **business days** of becoming aware of any **incident** and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a **plan**. The approval holder must specify in the notification: a. any condition or commitment made in a **plan** which has been or may have been breached. b. a short description of the **incident** and/or potential non-compliance and/or actual non-compliance. c. the location (including co-ordinates), date, and time of the **incident** and/or potential non-compliance and/or actual non-compliance. **Note**: If the exact information cannot be provided, the approval holder must provide the best information available.
As varied on the date this instrument was signed	16. The approval holder must provide to the **Department** in writing, within 12 **business days** of becoming aware of any **incident** and/or potential non-compliance and/or actual non-compliance, the details of that **incident** and/or potential non-compliance and/or actual non-compliance with the

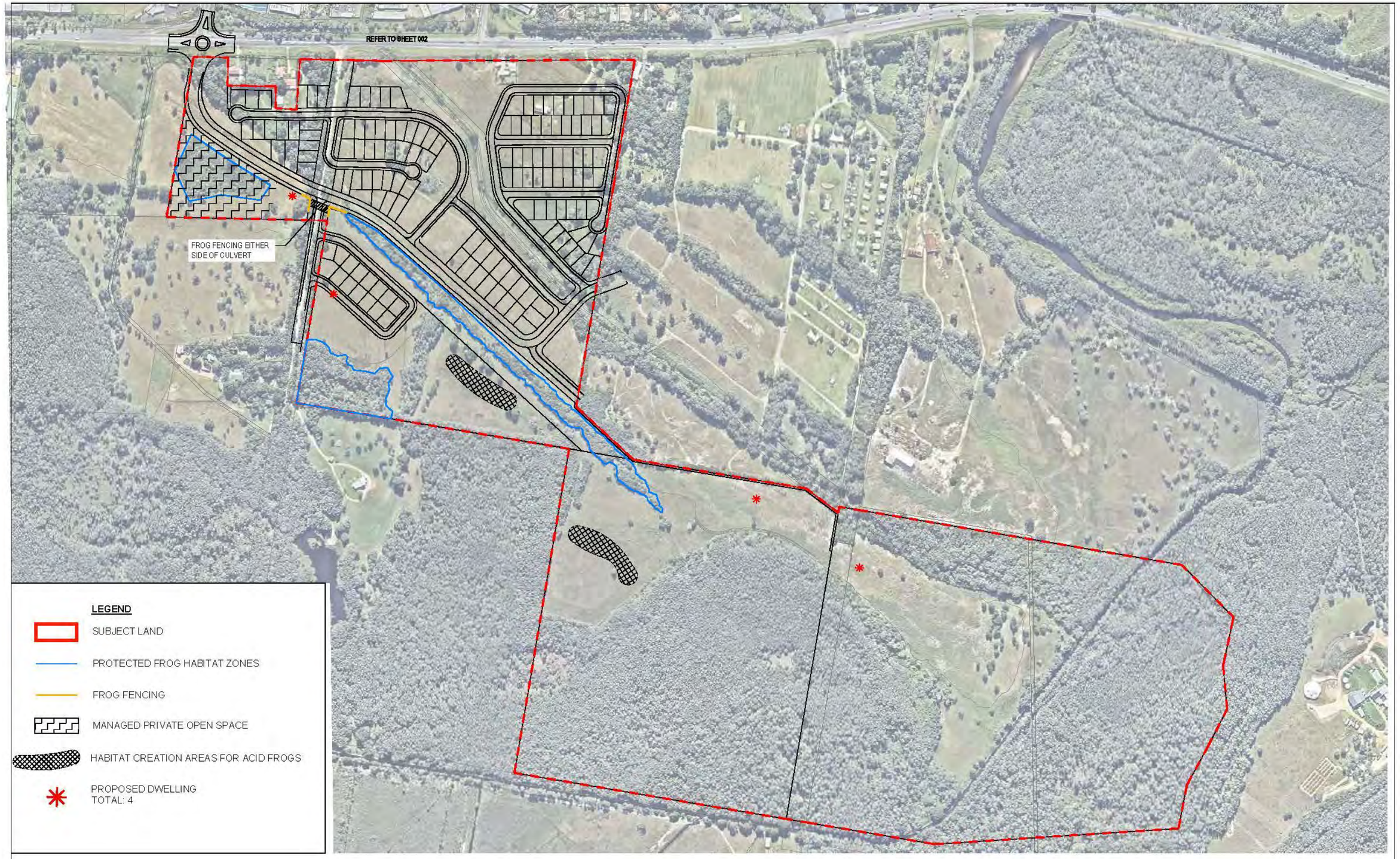
Date of decision	Conditions attached to approval
	conditions or commitments made in a **plan**. The approval holder must specify: a. any corrective action or investigation which the approval holder has already taken b. the potential impacts of the **incident** and/or non-compliance and/or non-compliance c. the method and timing of any corrective action that will be undertaken by the approval holder.

Date of decision	Definitions attached to approval
As varied on the date this instrument was signed	**BioBanking Statement** - **REVOKED**
As varied on the date this instrument was signed	**Business day** means a day that is not a Saturday, a Sunday or a public holiday in the state of New South Wales.
As varied on the date this instrument was signed	**Clear**, **cleared** or **clearing** means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting, or burning of vegetation.
Original dated 6/7/2018	**Commencement** means any physical works associated with the action, excluding fences and signage.
As varied on the date this instrument was signed	**Compliance reports** means written reports: i. providing accurate and complete details of compliance, **incidents**, and non-compliance with the conditions and the **plans** ii. consistent with the **Department**'s *Annual Compliance Report Guidelines* (2014) iii. include a **shapefile** of any clearance of any **protected matters**, or their habitat, undertaken within the relevant 12-month period iv. annexing a schedule of all **plans** prepared and in existence in relation to the conditions during the relevant 12-month period.
Original dated 6/7/2018	**Department** means the Australian Government Department or any other agency administering the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) from time to time.
As varied on the date this instrument was signed	**EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).
As varied on the date this instrument was signed	**Existing habitat** means the areas represented in Attachment B by the zones enclosed within the blue solid lines labelled 'PROTECTED FROG HABITAT ZONES'.
As varied on the date this instrument was signed	**Habitat creation areas** means the areas represented in Attachment B by the black hatched shaded polygons labelled 'HABITAT CREATION AREAS FOR ACID FROGS'.

Date of decision	Definitions attached to approval
As varied on the date this instrument was signed	**Impact** means to cause any measurable direct or indirect disturbance or harmful change as a result of any activity associated with the action.
As varied on the date this instrument was signed	**Incident** means any event which has the potential to, or does, impact on **Wallum Sedge Frog**.
As varied on the date this instrument was signed	**Minister** means the Minister administering the **EPBC Act** and includes a delegate of the Minister.
Original dated 6/7/2018	**New or increased impact** means a new or increased impact on any matter protected by the controlling provisions for the action, when compared to the plan that has been approved by the Minister.
As varied on the date this instrument was signed	**Project area** means the location of the action, represented by the area enclosed within the red lines labelled 'SUBJECT LAND' in Attachment B.
As varied on the date this instrument was signed	**Plan** means any action management plan or strategy that the approval holder is required by these conditions to implement.
As varied on the date this instrument was signed	**Rehabilitation Plan** means the document: Australian Wetlands Consultancy (2021) *Acid Frog Management Plan, 'Harvest Estate ', West Byron Urban Release Area, Ewingsdale Road, Byron Bay*, prepared for Tower Holdings Pty Ltd, dated 18 October 2021, or a version revised in accordance with this approval.
As varied on the date this instrument was signed	**Statement of assessment of reasonable equivalence of biodiversity credits** - **REVOKED**
As varied on the date this instrument was signed	**Wallum Sedge Frog** means the **EPBC Act** listed threatened species *Litoria olongburensis*, also known as the Olongburra Frog.
As varied on the date this instrument was signed	**Website** means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

Date of decision	Annexures
As varied on the date this instrument was signed	**Annexure A – REVOKED**
As varied on the date this instrument was signed	**Annexure B – Habitat Creation Areas for Acid Frogs**
As varied on the date this instrument was signed	**Annexure C – REVOKED**

Attachment B: Habitat Creation Areas for Acid Frogs



SHEET 02

PROJECT: THREATENED SPECIES MANAGEMENT PLAN

DRAWING TITLE: HABITAT CREATION AREAS FOR ACID FROGS

01	LANDSCAPE MANAGEMENT PLAN FOR INFORMATION	13.05.20	AH	AH	JA
02	LANDSCAPE OPW FOR INFORMATION	18.08.20	AH	AH	LT

JOB NO: J5644 DWG NO: J5644_02

SCALE: 1:2500 @ A1

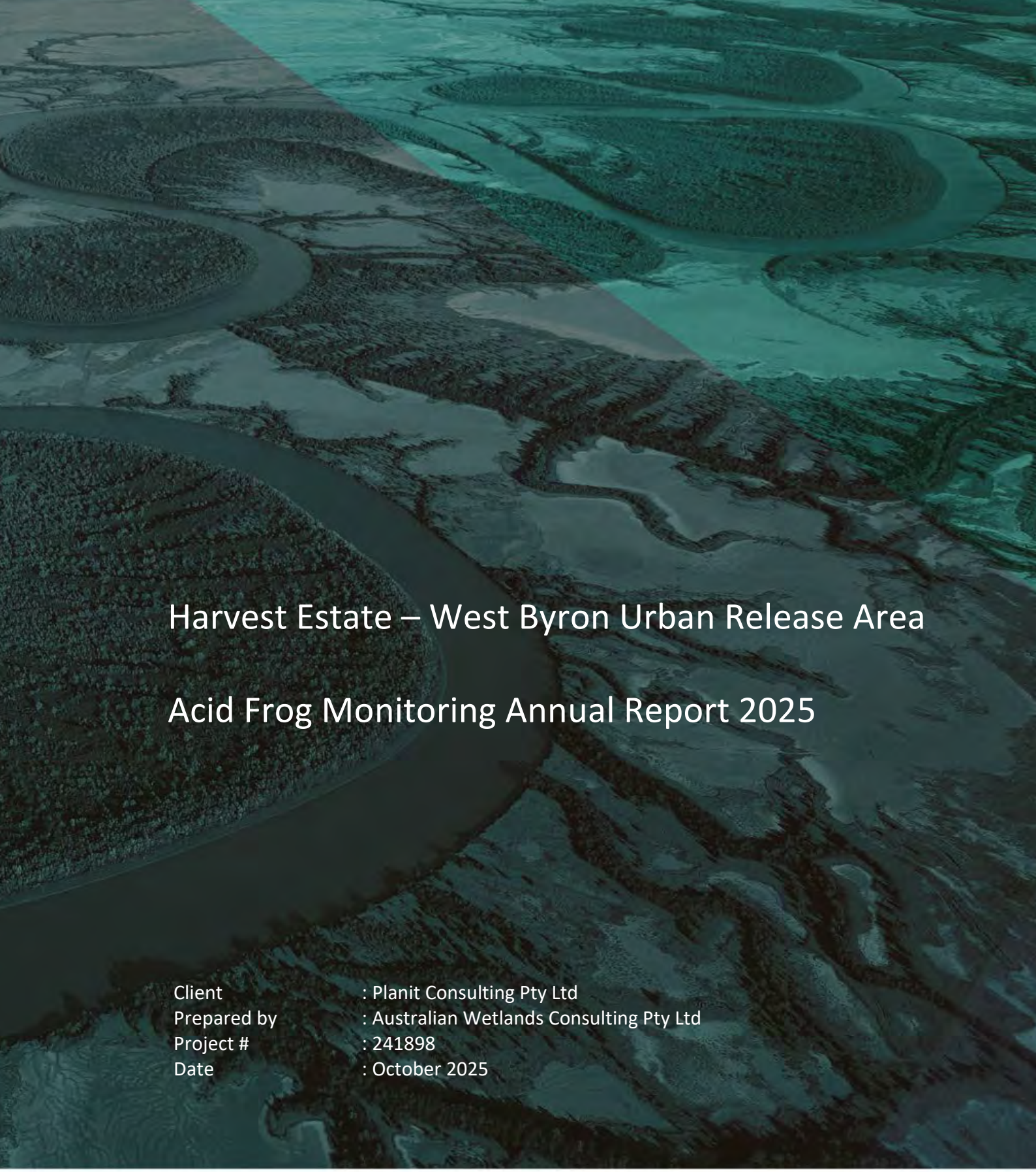
CLIENT: Tower Holdings Pty Ltd

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Appendix B – Acid Frog Monitoring Annual Report 2025



Harvest Estate – West Byron Urban Release Area

Acid Frog Monitoring Annual Report 2025

Client	: Planit Consulting Pty Ltd
Prepared by	: Australian Wetlands Consulting Pty Ltd
Project #	: 241898
Date	: October 2025

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AWC



Harvest Estate – West Byron Urban Release Area

Acid Frog Monitoring Annual Report 2025

Project control

Project name: Harvest Estate – West Byron Urban Release Area
Acid Frog Monitoring Annual Report 2025

Job number: 241898
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1 Introduction and Background

This annual report has been prepared to summarise monitoring results from the Acid Frog monitoring undertaken at the Harvest Estate, West Byron Urban Release Area following the monitoring requirements set out in the Acid Frog Management Plan (AFMP) (AWC, 2021). Acid Frogs are known for their tolerance (and preference) for mildly acidic ground and water conditions, and are found along Australia's eastern seaboard. Whilst their geographic range has been largely unchanged since pre-European times, their area of occupancy has been significantly reduced due to land clearing, development and other anthropogenic impacts (Meyer *et al*., 2006). The scope of the AFMP is to address State and Commonwealth listed threatened Acid Frogs that are known to occur on the proposed development site, specifically:

Wallum Sedge Frog (*Litoria olongburensis*)

- Listed as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- Listed as Vulnerable under the NSW *Biodiversity Conservation Act 2016* (BC Act)

Wallum Froglet (*Crinia tinnula*)

- Listed as Vulnerable under the BC Act

The AFMP aims to provide mitigation strategies to ensure the conservation of these frog species, and provide key monitoring and management actions to ensure the species' long-term survival across the subject site. Section 5 of the AFMP sets out monitoring requirements for the two species of Acid Frogs. A 20-year monitoring period has been established, from the pre-construction stage to the operational phase of the development. Monitoring of target frog species is required to be undertaken at eight permanent monitoring locations three times per year, at roughly four-month intervals, by the appointed ecologist.

Key performance criteria have been developed to determine whether mitigation strategies are successful. These are outlined in Section 4.2 of this report; progress towards these indicators is discussed in Section 5, with recommendations following in Section 6.

1.1 Subject Site

Harvest Estate, part of the West Byron Urban Release Area, is located along Ewingsdale Rd, approximately 3km west of Byron Bay, on the traditional lands of the Arakwal people. The site is approximately 27.8ha in area and comprises a large residential subdivision on formerly rural lands. Eight permanent monitoring locations have been established at the site to indicate Acid Frog presence and population abundance (Figure 1.1).



AWC

Source:	Imagery: Nearmaps Layout: Harvest Estate AF Habitat and Monitiring Locations: AWC
Disclaimer:	Care was taken in the creation of this map. AWC should be consulted as to the suitability of the information shown here in prior to the commencement of any works based on the information provided. AWC cannot accept any responsibility for errors, omissions or positional accuracy. There are no warranties expressed or implied as to the suitability of this map for a particular purpose. However, notification of any errors will be appreciated.
Date	18-6-21

0 75 150 225 300 m

A3 Scale 1:4,000
Coordinate System: MGA 56 Projection: Transverse Mercator

Legend
AF Habitat
- Impacted
- Retained
- Created
- Created breeding habitat
- AF monitoring sites
- Layout

Figure 5-1:

Acid Frog Monitoring Locations

2 Acid Frog Habitat

Both the Wallum Froglet and Wallum Sedge Frog are found in wallum habitats, which are characterised by acidic conditions and ephemeral wetlands. The Wallum Sedge Frog is likely to be found in undisturbed wallum heath or sedgeland environments and is not generally known to inhabit disturbed environments. Their lifecycle is adapted to the acidic pH (2.5 –5.5) of these wetlands. In undisturbed wallum habitat, Wallum Froglets occur sympatric with other 'acid' frog species including the Wallum Sedge Frog and Wallum Rocket Frog (*Litoria freycineti*). In disturbed habitats, Wallum Froglets may be found in low-lying areas with sparse grass and sedge cover, including fire breaks and access tracks through wallum heath.

For breeding habitat, the Wallum Sedge Frog shows a clear preference for ephemeral (seasonally inundated) perched swamps with emergent upright sedges, such as *Machaerina* spp. and *Schoenus* spp. These sedges are preferred by adult frogs for perching.

Like other Acid Frog species, the Wallum Froglet is highly acid tolerant, breeding in waters as acidic as pH 3.2 (Hines and Meyer 2011; Meyer 2004). The Wallum Froglet is known to breed in shallow surface water along cleared tracks as well as borrow pits and drainage ditches (Hines and Meyer 2011). Non-breeding habitat usage is poorly documented in the Wallum Froglet; however, adult animals have been recorded some distance (many tens of meters) from breeding habitat in nearby *Banksia* woodland and/or open eucalypt forest (Meyer *et al*. 2006). Non-breeding animals have also been located amidst damp leaf litter and down crayfish burrows (Hines and Meyer 2011).

2.1 Management On-site

To ensure the long-term viability of the population of Wallum Sedge Frog and Wallum Froglet, the core elements of the AFMP's proposed mitigation strategy are:

- Retain existing habitat:
    - A total of 3.0ha of habitat occurs at the site, with 2.95ha being retained following development. Habitat lost (0.05ha) is located adjacent to a primary road
- Create new habitat:
    - An additional 4.77ha of movement/foraging habitat will be created through vegetation management
    - An additional 0.64ha of breeding habitat (ponds) will be created
- Provide a fauna underpass connecting the two mapped habitat polygons, including the installation of sections of frog fencing to facilitate effective movement
- Direct stormwater discharge away from habitat areas, resulting in no direct stormwater entering the habitat during or after construction
- Implement management measures including sediment and erosion control, water quality monitoring, weed management, frog fencing and frog-friendly fauna crossings
- Ensure that the habitat being recreated, rehabilitated and conserved is protected and managed in perpetuity
- The design and implementation of rehabilitation and habitat re-creation will be informed by additional soil and groundwater assessment

- Maintaining and/or creating an ephemeral acidic wetland will be key to negating the threats of Cane Toad (*Rhinella marina*) and Mosquito Fish (*Gambusia holbrooki*) on existing Acid Frog populations at the site:
    - Ephemeral wetlands will disrupt the potential populations of the Mosquito Fish
    - Acidic waters (pH <5.2) are unfavourable to Cane Toad and Cane Toad breeding
- Ensure there are no artificial waterbodies created incidentally during development (defined as ponds/wetlands that have permanent water) to minimise the habitat suitable to Cane Toad and/or Mosquito Fish
- All water-sensitive urban design (WSUD) devices are ephemeral, meaning they will dry out between rainfall events and thus not be habitable by either Cane Toads or Mosquito Fish
- Prevention of regular external catchment surface flows from entering frog habitat will ensure external transport of Cane Toad tadpoles and/or Mosquito Fish will not occur

3 Methods

To determine the success of the AFMP management and mitigation strategies, monitoring was undertaken to:

- Document the persistence of Wallum Sedge Frog and Wallum Froglet within retained areas of known habitat and created habitat
- Determine whether Acid Frogs are utilising areas of created habitat
- Determine that suitable pH occurs within all areas of retained and created habitat
- Record water depth and quality
- Determine the presence/influence of Cane Toads
- Determine the presence of weed species
- Document the presence of Mosquito Fish and their impact on both acid frogs and their habitat

Monitoring of retained habitat areas was conducted three times during 2025 (April, July and October). Each monitoring event occurred over two nights for a total of 2.5 person-hours and was comprised of:

- Nocturnal survey and counting of Wallum Sedge Frog and Wallum Froglet individuals at six locations across the two retained habitat areas:
- Call playback to elicit a response
- Water quality sampling if standing water was present
- Recording of incidental amphibian and Mosquito Fish at the site
- Recording weather conditions (temperature, relative humidity, rainfall)

One round of acoustic monitoring occurred in April to confirm a faint, suspected Wallum Sedge Frog call. The survey effort used one Chorus Meter deployed over two nights with data analysed on Kaleidoscope software.

Annual monitoring of the two constructed habitat basins occurred in July to track the establishment of aquatic vegetation. 12 permanent 5x5m plots were surveyed, one within each cell of the two constructed frog ponds (Figure 2). The following data was recorded for each plot:

- Percentage cover of all species (including weeds)
- A photo at a permanent photo point
- Any other relevant observations

3.1 Survey and Assessment Limitations

The survey for the target species was conducted over specific, limited time periods and, therefore, does not represent a full census of the populations at the site. However, the survey method was considered appropriate for detecting the presence and estimating the abundance of the two target species, as well as identifying any threatening processes outlined in the AFMP.

4 Results

Acid frog abundance and distribution

The Wallum Froglet was observed at least once at all monitoring locations except AF-03 throughout the year. The Wallum Sedge Frog was confirmed at AF-01 only. A second location (AF-04) had two suspected calls but a follow-up Chorusmeter passive acoustic survey across the subsequent two nights did not confirm the presence.

A total of 41 Wallum Froglets were observed during the surveys. Of the Wallum Froglets recorded, 68% (28) were recorded in April with a relatively even spread across the monitoring locations (refer Figure 4.1). Numbers of observation declined in July (8), and October (5). Spread of observations in these periods was also relatively even with only AF-02 and 03 records null results.

Two Wallum Sedge Frogs were observed during the surveys. Both were recorded at AF-01 in April and October. Wallum Sedge Frogs are known to be seasonally active and null results in July is expected (further discussiuon is provided in section 5.3.1). A suspected pair of calls at AF-04 in April was interrogated further without a positive result.

Climate

Sustained, significant rainfall events including ex-Tropical Cyclone Alfred, occurred throughout the first half of the year which matched high Wallum Froglet observations. Ex-TC Alfred preceded the April survey with widespread flooding across NE NSW and SE Queensland. However, data from previous years has not suggested a direct relationship exists between precipitation levels and acid frog abundance at the monitoring sites. Factors other than rainfall, such as habitat conditions, water quality, temperature, or breeding cycles were seen as a more significant influence on frog activity and detection rates than precipitation alone.

Seasonal activity, particularly for the Wallum Sedge Frog, gives further explanation to variations in detection, as this species is more active during its breeding season from September to March. The absence of this frog and drop in Wallum Froglet observations in cooler months suggests that temperature and humidity are key drivers of their presence, rather than rainfall alone.

Invasive species

Records of two invasive species were noted during the monitoring events. In March, Mosquito Fish (*Gambusia holbrooki*) were identified at AF-03 and AF-03a. No further observations were made in subsequent surveys including at other monitoring sites. Cane Toad (*Rhinella marina*) numbers were low across the development site. Only a single Cane Toad was observed in/adjacent to habitat (AF-02 in April).

Water Quality

The AFMP requires pH of 3-5 for standing water. Measurements varied across the year at most sites with averages across the year within the range for all except AF-05. Three other sites (AF-02, 03 and 03a) all had values >5.5 (max=6) at least once. AF-06 had one reading >5 (5.17).

AF-05 pH trended neutral throughout the year (refer Figure 4.2) increasing substantially from July and maintaining a near neutral pH. During the July monitoring a blowout in the stormwater drain immediately north was noticed with free flow of water entering the AF-05 basin. The drain itself had near neutral pH and a pile of crushed lime was seen upstream near the intersection of Harvest Blvd. and Melaleuca Drv. The eroded bank was subsequently re-stabilised, however, between July and October pH at AF-05 has declined to 6.65.

Results from the 2025 monitoring events are shown in tables 4.1-4.6.

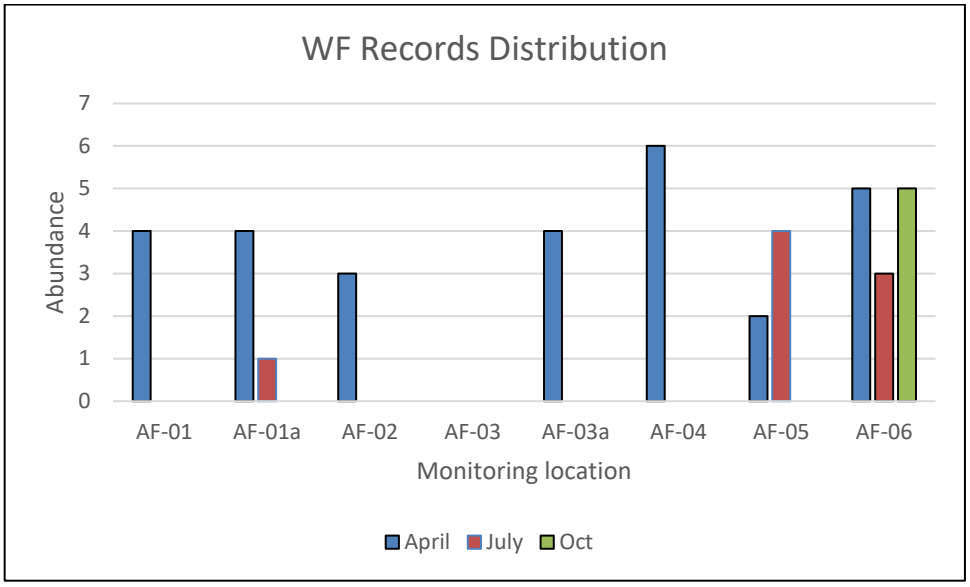


Figure 4.1 Distribution of Wallum Froglet records by site and monitoring period

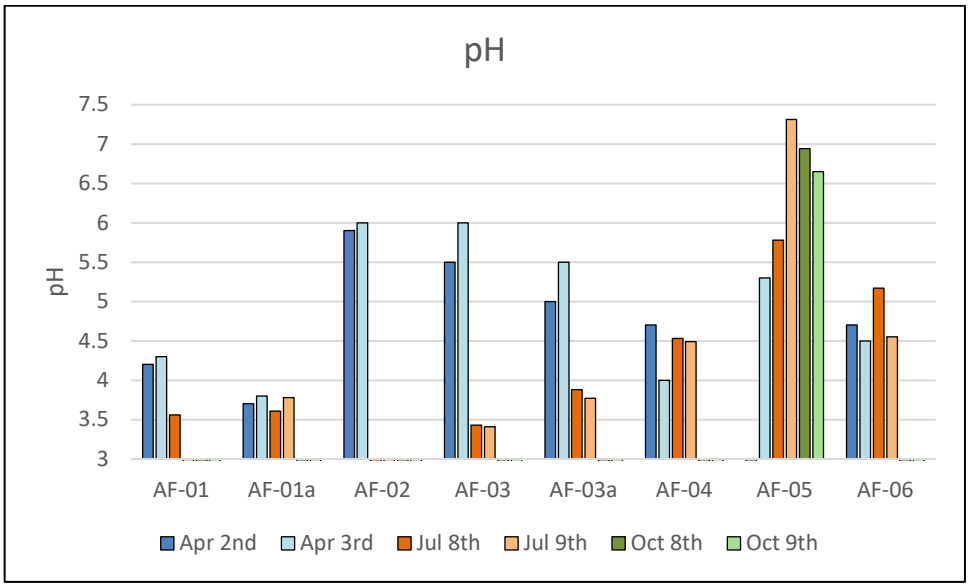


Figure 4.2 pH values at monitoring sites throughout 2025

Table 4.1 April 2025 monitoring results

Date: 02/04/2025												
Site	Wallum Sedge Frog	Number	Wallum Froglet	Number	pH	DO (%)	Temp (˚C)	EC (mS/cm)	Turbidity	Depth (cm)	Humidity (%)	Comments
AF-01	N	-	Y	3	4.2	-	21.1	100	-	10	0	-
AF-01a	N	-	Y	2	3.7	-	20.8	190	-	30	2	2x *Crinia signifera*
AF-02	N	-	Y	3	5.9	-	22.2	360	-	30	5	5x *C. signifera*
AF-03	N	-	N	-	5.5	-	22.9	330	-	20	0	-
AF-03a	N	-	Y	3	5	-	22.1	350	-	30	3	1x *C. signifera, Gambusia* present. *C. tinnula* calling from retained habitat in NE, SW & W
AF-04	Y	*	Y	4	4.7	-	19.7	100	-	-	5	1x *C. signifera,* 1x *C. parinsignifera,* 1x *Litoria fallax,* 2x *L. olongburensis* heard from retained habitat in south
AF-05	N	-	Y	2	-	-	-	-	-	-	6	4x *C. signifera,* 1x *Limnodynastes peroni. C. tinnula* calling from N & S
AF-06	N	-	Y	3	4.7	-	22.2	50	-	75	11	10x *C. signifera. C. tinnula* calling from N & NE

Table 4.2 April 2025 monitoring results

Date: 03/04/2025												
Site	**Wallum Sedge Frog**	**Number**	**Wallum Froglet**	**Number**	**pH**	**DO (%)**	**Temp (˚C)**	**EC (mS/cm)**	**Turbidity**	**Depth (cm)**	**Humidity (%)**	**Comments**
AF-01	Y	1	Y	1	4.3	-	23.5	90	-	10	0	
AF-01a	N	-	Y	2	3.8	-	22.1	210	-	35	2	2x *C. signifera*, calling nearby from south
AF-02	N	-	N	-	6	-	24.6	400	-	35	3	1x *C. signifera*, 1x *L. peroni* 1x *R. marina* (Cane Toad) *C. tinnula* nearby
AF-03	N	-	N	-	6	-	23.2	410	-	35	3	1x *C. signifera*, 1x *L. peroni* Gambusia *present*
AF-03a	N	-	Y	1	5.5	-	24.6	300	-	35	3	1x *C. signifera,* 1x *L. peroni* Gambusia present*, C. tinnula* in retained habitat
AF-04	N	-	Y	2	4	-	24.5	180	-	15	4	1x *C. signifera,* 1x *L. nasuta,* 1x *U. fusca C. tinnula* in retained habitat north and south. *Cuphea carthagenesis,* Singapore daisy and ageratum along bank
AF-05	N	-	N	-	5.3	-	24.5	330	-	30	2	1x *C. signifera, C. tinnula* nearby
AF-06	N	-	Y	2	4.5	-	25.6	630	-	25	7	1x *C. parinsignifera*, 4x *C. signifera*, 2x *C. tinnula* east in pond

Table 4.3 July 2025 monitoring results

Date: 08/07/2025												
Site	Wallum Sedge Frog	Number	Wallum Froglet	Number	pH	DO (%)	Temp (˚C)	EC (mS/cm)	Turbidity	Depth (cm)	Humidity (%)	Comments
AF-01	N	-	N	-	3.56	27.2	12.45	269.8	30.02	5		
AF-01a	N	-	N	-	3.61	40.8	12.19	169.4	33.44	15		
AF-02	N	-	N	-	-	-	-	-	-			No standing water
AF-03	N	-	N	-	3.43	17.9	14.72	487.2	4.01	10		
AF-03a	N	-	N	-	3.88	69.8	14.54	155.9	2.69	20		
AF-04	N	-	N	-	4.53	17.1	14.25	90.3	71.51	8		
AF-05	N	-	N	-	5.78	96.1	15.67	298.8	12.37	>100		
AF-06	N	-	Y	2	5.17	97.1	16.8	99.1	1.42	40		

Table 4.4 July 2025 monitoring results

Date: 09/07/2025												
Site	Wallum Sedge Frog	Number	Wallum Froglet	Number	pH	DO (%)	Temp (˚C)	EC (mS/cm)	Turbidity	Depth (cm)	Humidity (%)	Comments
AF-01	N	-	Y	-	-	-	-	-	-	-		No standing water found
AF-01a	N	-	Y	1	3.78	60.7	13.57	170.5	6.14	15		
AF-02	N	-	N	-	-	-	-	-	-	-		No standing water
AF-03	N	-	N	-	3.41	29	15.12	503.6	3.14	10		
AF-03a	N	-	N	-	3.77	83.9	14.91	164.8	1.87	8		
AF-04	N	-	N	-	4.49	20.9	14.6	88.2	12.49	8		
AF-05	N	-	Y	4	7.31	98.4	16.41	309.4	5.61	>100		
AF-06	N	-	Y	1	4.55	96.6	16.16	97.6	1.13	40		

Table 4.5 October 2025 monitoring results

Date: 08/10/2025												
Site	Wallum Sedge Frog	Number	Wallum Froglet	Number	pH	DO (%)	Temp (˚C)	EC (mS/cm)	Turbidity	Depth (cm)	Humidity (%)	Comments
AF-01	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-01a	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-02	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-03	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-03a	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-04	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-05	N	-	N	-	6.94	52.3	25.38	244.1	0	25	-	
AF-06	N	-	Y	4	-	-	-	-	-	-	-	No standing water

Table 4.6 October 2025 monitoring results

Date: 09/10/2025												
Site	Wallum Sedge Frog	Number	Wallum Froglet	Number	pH	DO (%)	Temp (˚C)	EC (mS/cm)	Turbidity	Depth (cm)	Humidity (%)	Comments
AF-01	Y	1	N	-	-	-	-	-	-	-	-	Heard north of monitoring point potentially as far as drain along road
AF-01a	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-02	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-03	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-03a	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-04	N	-	N	-	-	-	-	-	-	-	-	No standing water
AF-05	N	-	N	-	6.65	54.4	23.83	269.3	20.7	20	-	
AF-06	N	-	Y	1	-	-	-	-	-	-	-	No standing water

4.1 Key Performance Criteria

Key Performance Criteria for Acid Frog management at Harvest Estate are detailed along with their achievement status in Table 4.7.

Table 4.7 Key performance criteria

Item	Performance Criteria	Achieved/Action required
Retained habitat areas		
Water quality	Water chemistry is between a pH range of 3-5	AF-02 average pH readings exceed threshold. All other points within range.
Wetland hydroperiod	Ponding of water for a minimum period of 6 weeks under >60th percentile rainfall conditions between January and May	Yes - Ponding present at all sites between Jan and May.
Vegetation	Native vegetation continues to persist and is not degraded or disturbed.	Yes
Weed control	Environmental weeds comprise < 10% total within each habitat area	Yes – Intervention required (see recommendations)
Wallum Froglet / Wallum Sedge Frog populations	Existing/known habitat areas continue to be utilised by Wallum Froglet / Wallum Sedge Frog.	Yes – Wallum Froglet present at all sites No – Wallum Sedge Frog observed at AF-01 only
Cane Toads	No observed breeding/tadpoles within created or retained habitat.	Yes – No tadpoles/breeding observed
Mosquito Fish	Monitor Mosquito Fish population – include the drying out of water courses to control fish numbers.	Yes – While Mosquito Fish were observed at AF-03 and 03a the habitat has since dried out removing the threat of a self-sustaining population.
Constructed habitat areas		
Water quality	As above	AF-05 average pH readings exceed threshold. Potentially due to inflows from adjacent stormwater drain damaged in early 2025 floods. AF-06 is within range.
Wetland hydroperiod	Ponding of water for a minimum period of 6 weeks under >60th percentile rainfall conditions between January and May	Yes
Weed control	Environmental weeds comprise < 10% total within each identified frog compensation area per precinct.	Yes – Intervention required (see recommendations)
Habitat establishment	Survival rate of greater than 90% of all plantings and translocated material	Yes
Wallum Froglet / Wallum Sedge Frog populations	Utilisation by Wallum Froglets / Wallum Sedge Frog and persistence at constructed habitat areas over time.	Wallum Froglets – Yes Wallum Sedge Frog - No
Cane toads	No observed breeding/tadpoles within created or retained habitat.	Yes

5 Discussion

5.1 Climate Context

Rainfall throughout 2025 was defined by fluctuations largely below monthly averages and anomalous events beginning in early March including ex-TC Alfred and subsequent east-coast lows or strong low pressure systems (refer Figure 5.1). The effect on the habitat was clear with ponding at all sites following large rainfall events. As a result of the ponding all habitats were known to be utilised by Wallum Froglets in abundance.

Following extremely high March rainfall totals, monthly totals returned to near-average. Ponding was evident at all but AF-02 which is the most densely vegetated monitoring point. Rainfall between April and July is likely to have caused the stormwater bank immediately north of AF-05 to collapse creating a flow path from the channel directly into the basin explaining the increase in water depth at AF-05 while all others decreased. Activity of Wallum Froglets dropped accordingly, likely assisted by cooler winter temperatures.

Much drier conditions occurred in the six weeks preceding the October survey (total rainfall = 14.6mm). Standing water was absent from all sites except AF-05 which had also decreased from >1m to 0.25m. Wallum Froglet activity was identified at AF-05 and 06, but other habitat zones showed a decline due to the decline or absence of water. A single Wallum Sedge Frog was recorded at AF-01 repeating the record in April.

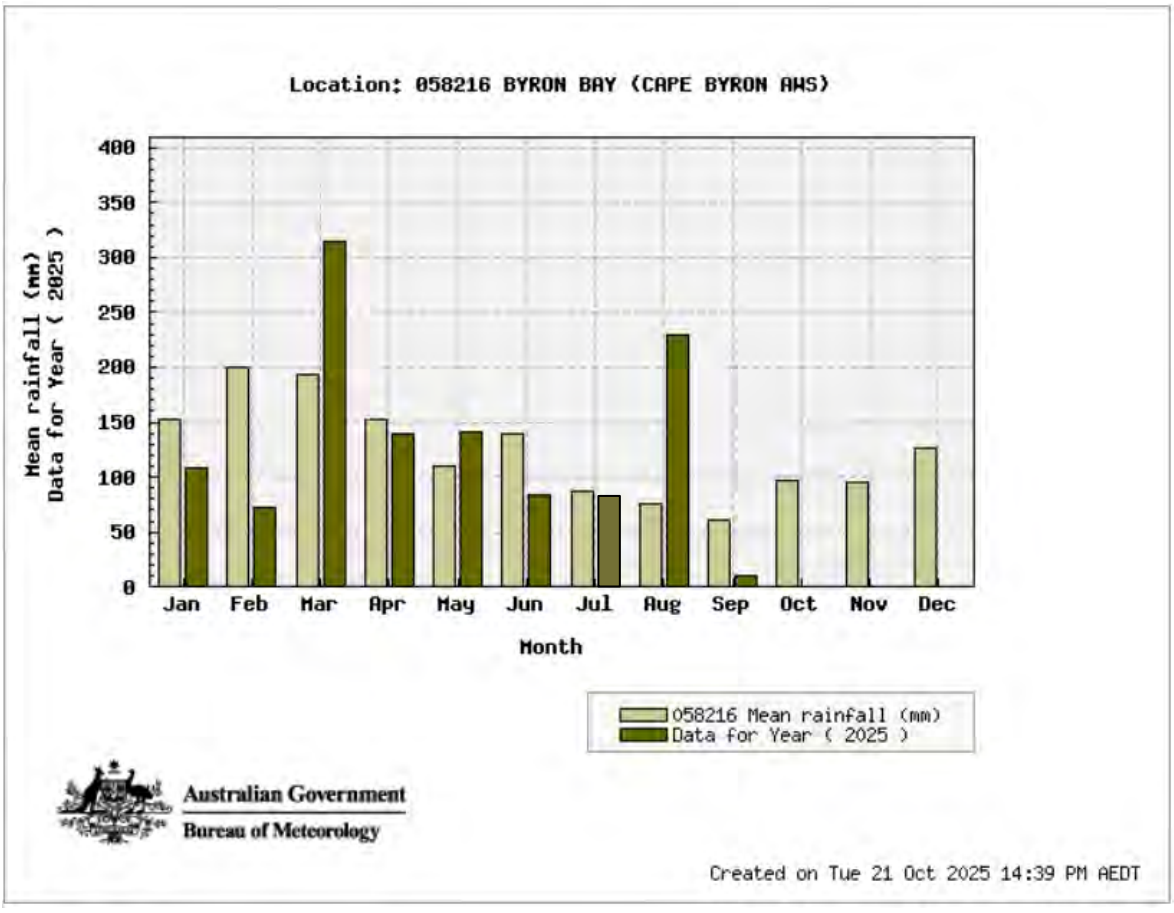


Figure 5.1 Monthly rainfall data comparison to mean (BOM 2025)

Note: July data added manually

5.2 Water Quality and Hydrology

Presence of standing water throughout the habitat appears highly responsive to episodic rainfall as discussed in section 5.1 above and previous monitoring reports.

Water quality across most monitoring location was consistent with acid frog habitat requirements, maintaining a pH range of 3-5. However, AF-02 and AF-05 recorded high pH values well in excess of the key performance criteria thresholds. It should be noted the stormwater drain bank collapse is likely to have had a large influence on pH at AF-05 with high volumes of stormwater flowing directly into the basin. pH readings in the drain in July were neutral to mildly alkaline showing flows into the AF-05 basin would have the effect of raising the pH which in 2024 had an average of 3.75 (range=3.45-4.05). Since the stabilisation of the bank pH levels at AF-05 have slowly declined although still remain >6.6.

As discussed, pH values have been largely attributed to flooding rains and inflows of neutral pH stormwater. Figure 4.2 shows values across most monitoring locations peaked in April with declines following thereafter. The speed of pH declines throughout the year appear to be tied to water volumes with AF01-04 responding most rapidly followed by AF-06 and then AF-05 which had the greatest water depths and persistence of surface water.

5.3 Frog Records

5.3.1 Wallum Sedge Frog

No Wallum Sedge Frogs were recorded during the July surveys, and only one individual was detected in each March and October. This aligns with their known absence of breeding activity outside their typical breeding season, which occurs from September to March. The lack of detections in the cooler months is not unexpected, as Wallum Sedge Frogs prefer warmer conditions for foraging and reproduction.

The distribution of results reflects 2024, where individuals were recorded at AF-01a (in the same habitat patch as AF-01). However, no other locations recorded positive results. The single positive site contrasts with 2024 where Wallum Sedge Frogs were detected at three locations (AF-01a, 02 and 03).

With consistently low abundance figures, previous monitoring years have concluded it would be beneficial to conduct additional surveys between October and March to better understand their population dynamics and habitat usage during the transitional periods of their breeding season. The current monitoring framework is timed to survey at the very beginning and end of the known activity period for the species. Abundance results have been consistently low. Due to the timing of surveys, and paired with low baseline abundance results, any statistical inferences are difficult to assert with confidence as the survey is heavily impaired by the species' seasonal activity.

5.3.2 Wallum Froglet

The Wallum Froglet surveys conducted revealed a consistent presence throughout the year albeit with reduced numbers in July and October. While active year-round the species is known to be highly responsive to rainfall events and presence of standing water. This is clearly displayed in the drop from 28 records in April (following sustained heavy rains) to eight in July and five in October following an extended drying out of the landscape.

The continued presence of Wallum Froglets in good numbers and distribution across all monitoring sites is a positive indicator of the health of the habitat and suggests that restoration efforts are effectively supporting their population. This stability may enhance genetic diversity and resilience within the population, which is

crucial for long-term viability. The data underscores the importance of ongoing monitoring to assess the effects of environmental conditions and habitat management on their breeding success and overall population dynamics.

5.4 Habitat Suitability

Results from the frog pond vegetation assessment show continued development of macrophyte cover with a relationship between cell depth and cover evident. Most cells are showing steady, if not rapid, growth however, shallow cells may require future intervention to assist the goal of increased macrophyte cover. Management may need to consider the suitability of Grey Sedge (*Lepironia articulata*) and Jointed Twig-rush (*Machaerina articulata*) in shallower cells and consider infill planting of wetland species suited to ephemeral inundation to prevent invasion by transformer weed species.

Increased cover of Broad-leaved Paperbark (*Melaleuca quinquenervia*) has been noted in both constructed basins. Individuals are all juveniles, the species must be controlled to avoid in transformation of the basins from sedge-land to *Melaleuca* dominated habitat. Control is easiest at early stage and may be achieved manually. Early treatment also enables reduced reliance on herbicides in sensitive wetland environments known to host threatened frog species.

5.5 Weeds

Weed cover assessed throughout 2025 has increased to the point of intervention. While weed cover overall remains <10% establishment has been observed in a patchy mosaic. Additionally, mature transformer species including Lantana (*Lantana camara*) and Winter Senna (*Senna pendula* var. *glabrata*) have been recorded in the retained habitat (AF-02-04), and Broad-leaved Paperbark in the constructed basins. Targeted intervention at the early stage of invasion is best practice to minimise future financial and environmental costs. to focused on key locations to achieve the <10% cover environmental weeds KPI.

5.6 Pest Species

Cane Toads (*Rhinella marina*) records contrast with previous years. In 2025 only AF-02 was observed to have Cane Toads present in adult form. No breeding activity or tadpoles have been recorded.

Mosquito Fish were detected at AF-03 and 03a in April. The species was not previously recorded in 2024. Drying of habitat is a key measure in controlling Mosquito Fish across a landscape. It is likely the species self-introduced via flooding in March. Since the identification no standing water has been recorded at the location and monitoring points in connected habitat (AF03-04) have similarly dried. Ongoing vigilance is required especially at AF-05 where standing water is evidently present longer into dry periods than all other monitoring locations.

6 Conclusion & Recommendations

6.1 Weed Control and Vegetation Monitoring

Annual habitat monitoring of the constructed basins is to continue as normal with the next vegetation assessment due in July 2026.

Weed control by qualified bush regenerators is necessary to suppress weeds in and around the habitat areas. Details on areas requiring intervention are provided below. All weed removal is to preference non-herbicide treatment methods or direct application of herbicide to protect the sensitive wetland environment.

- Constructed ponds
    - Broad-leaved Paperbark removal
    - Whisky Grass (*Andropogon virginicus*) observed on the northern batters of both ponds where vegetation cover is sparse-moderate
- AF-02 -04
    - Lantana (*Lantana camara*) and Winter Senna (*Senna pendula*)
    - Whisky Grass invading consistently along the northern edge of habitat

6.2 Wallum Froglet Monitoring

Continued Wallum Froglet surveys are to be conducted as normal to determine the species' presence.

6.3 Wallum Sedge Frog Monitoring

Given the trend of low records across the years of survey statistical confidence in results is difficult to achieve. Only two of the three survey periods is timed to occur within the period of activity for the species, and both occur during the shoulder season. That is, there are no surveys during peak Wallum Sedge Frog activity. It is strongly recommended that a summer survey during ideal conditions be conducted to give greater confidence that Wallum Sedge Frogs are utilising the retained and created habitat. Without doing so it is not possible to assert the success, or otherwise, of the conservation efforts.

As per the findings of Lowe *et al.* (2016), targeted surveys should be conducted under the following conditions:

- Air temperature is ≥21.7°C
- Substantial rainfall within one week and/or one month
- Between October and March (or until May in seasons with late summer rainfall)

6.4 Water Quality

Elevated pH at AF-05 is a concern not only in deviating from suitable breeding habitat conditions but also allowing greater potential for Cane Toad establishment. pH values have been largely attributed to flooding rains and inflows of neutral pH stormwater. The following actions are recommended:

- Monitor stability of stormwater bank focusing on the previously collapsed bank
- Monitor pH at AF-05 monthly until April
- Should pH at AF-05 not continue the downward trend adaptive management actions will be required

6.5 Conclusion

Monitoring throughout 2025 has concluded all but one KPI (pH) listed in Table 4.7 have been met or are on track to be achieved with the implementation of the outlined recommendations in the coming year. Continued commitment to habitat management and monitoring will be essential to ensure the long-term success of the restoration efforts and the abundance of the Wallum Sedge Frog and Wallum Froglet populations.

7 References

AWC (2021) *Harvest Estate – West Byron Urban Release Area: Acid Frog Management Plan.* Australian Wetlands Consulting Pty Ltd. Document no. 1-201243_01d

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Appendix C – Year 3 Annual Revegetation / Rehabilitation Monitoring Report

Year 3 – Annual Revegetation / Rehabilitation Monitoring Report

Harvest Estate, West Byron

Prepared for OZTON Pty Ltd

By Planit Consulting Pty Ltd

V.1 - September 2025

Job No: J7148

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Document Control

Document	Year 3 Revegetation/Rehabilitation Monitoring Report
Project Name	Harvest Estate, West Byron
Client	OZTON Pty Ltd
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Revision Number	V.1

Revision History

Revision	Date	Prepared By	Reviewed By	Approved By
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1 Introduction

Planit Consulting has been commissioned by OZTON Pty Ltd to prepare a Revegetation/Rehabilitation Monitoring Report associated with an approved subdivision of 149 allotments located within part of the West Byron Urban Release Area, known as the Harvest Estate (refer **Figure 1**).

In order to track the progress of revegetation/rehabilitation zones associated with the estate, the approved Vegetation Management Plan (VMP) stipulates that regular flora/vegetation ground surveys of permanent monitoring plots to be performed.

These ongoing surveys qualify and quantify the condition of representative flora/vegetation habitat will enable periodic comparison of vegetation condition (to the baseline surveys performed) to assess compliance with the set performance criteria of the approved VMP.

The third Annual Monitoring Report is required 3 years after the substantial commencement works, which was accepted 26th July 2022.

Table 1: Approved Harvest Estate Development Details

Approval Information	
Applicant	Villa World Byron Pty Ltd
Application	Development Consent 10.2017.201.1 (Villa World Byron Pty Ltd v Byron Shire Council - LEC No. 2019/00310612)
Address	342 Ewingsdale Road, 22A and 22B Melaleuca Drive, Byron Bay
Development Consent Description	Staged subdivision of 9 lots into 149 residential lots (comprised of 145 smaller residential lots and 4 large lifestyle lots) and the creation of 7 green infrastructure lots, together with associated works including vegetation removal, earthworks, landscaping, creation of public reserves, roads, environmental management and protection and stormwater works at 342 Ewingsdale Road, 22A and 22B Melaleuca Drive, Byron Bay
Modification Consent Description	Development Consent 10.2017.201.1 S4.56 Modification to amend staging and timeframes Determination Date 4th November 2021

In association with the issued approval and subsequent subdivision certificate assessment a Vegetation Management Plan has been approved which stipulate the frequency and parameter specifications necessary to routinely monitor and assess the success of the rehabilitation/revegetation plans/works being:

Table 2: Approved Vegetation Management Plan Details

Document/Plan Title	Job No.	Revision	Date	Author	Approval Date
Vegetation Management Plan Harvest Estate, West Byron prepared for Villa World Byron P/L November 2021	6681	H	03-02-2022	Planit Consulting	10-02-2022

The relevant sections identifying rehabilitation/revegetation monitoring requirements of the VMP (which are also echoed in other site management plans) are tabulated below for ease of reference:

Table 3: Rehabilitation/Revegetation [RR] Monitoring Requirement Sections of Conditioned Management Plans

Vegetation Management Plan		
Report Section	**Brief Description**	**Timing/Frequency**
5.2 Monitoring	Establish Baseline monitoring plots for all RR zones, Complete monitoring Form C photographs for later comparison prior to works. Complete Monitoring Form C	Baseline [prior to commencement]
	Complete Monitoring Forms & visual monitoring/photographs for each RR zone	Six monthly from commencement until Year 5. Annually thereafter
5.5 Reporting	Report to include All Monitoring Results, Assessment against Performance Criteria, Incidence of non-compliance, Corrective Action	Annually
	Report to include Landscaper/bush regenerator work logs for RR annual report	Annually

Biodiversity Conservation Management Plan		
Report Section	**Brief Description**	**Timing/Frequency**
4.1 Monitoring and Reporting	Establish Baseline monitoring plots for all RR zones, Complete monitoring Form C photographs for later comparison prior to works. Complete Monitoring Form C	Baseline [prior to commencement]
	Complete Monitoring Forms & visual monitoring/photographs for each RR zone	Six monthly from commencement until Year 5. Annually thereafter

Biodiversity Conservation Management Plan		
Report Section	**Brief Description**	**Timing/Frequency**
	Report to include All Monitoring Results, Assessment against Performance Criteria, Incidence of non-compliance, Corrective Action	Annually
	Report to include Landscaper/bush regenerator work logs for RR annual report	Annually

Threatened Species Management Plan		
Report Section	**Brief Description**	**Timing/Frequency**
6.2.1 Monitoring	Minor mention of RR monitoring and management for minimum of ten years	Baseline [prior to commencement]
6.3 Reporting	Minor mention of RR reporting also required on an annual basis	Annually

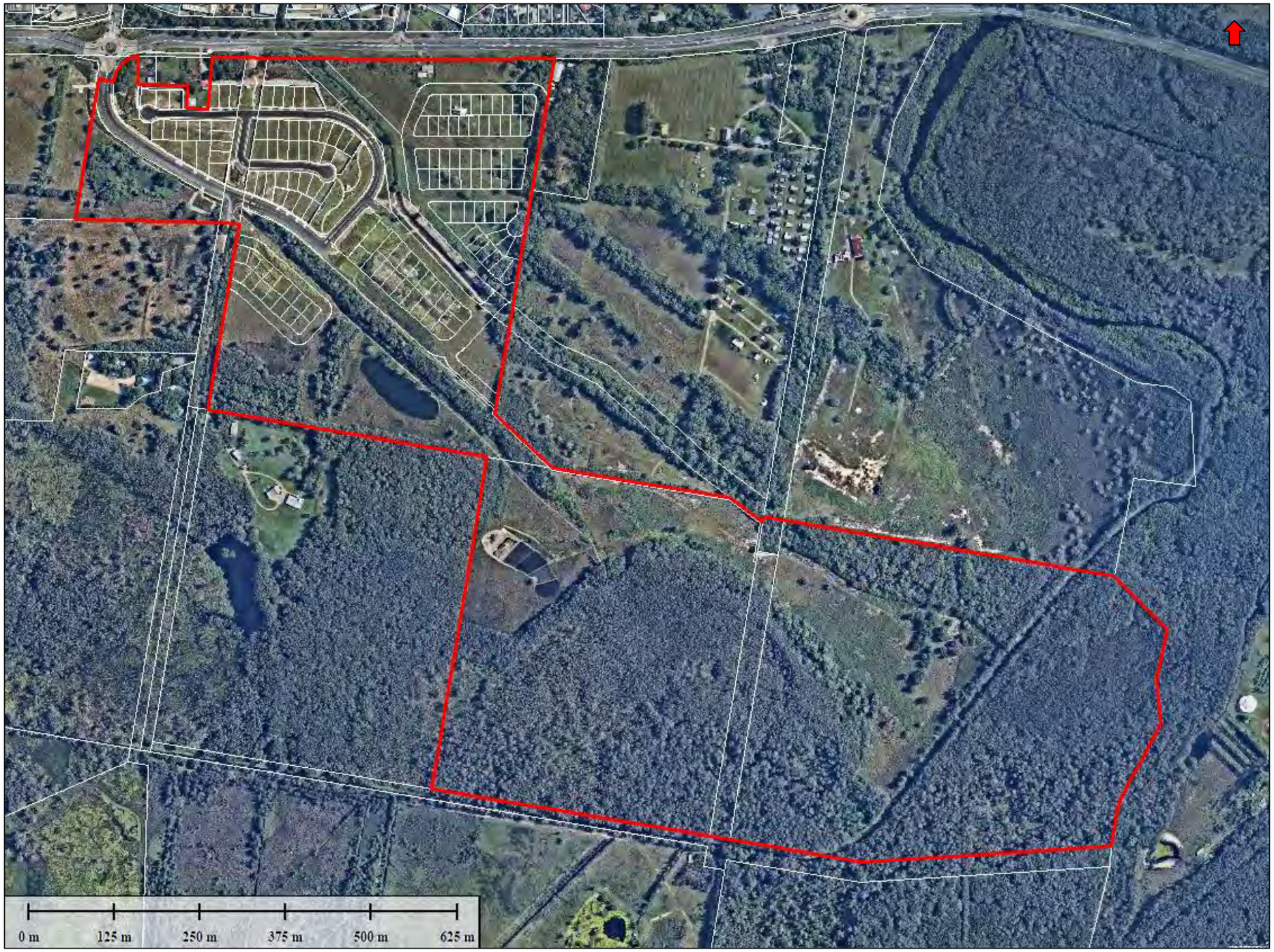


Figure 1: Harvest Estate Aerial Photograph (Nearmap, 2024)

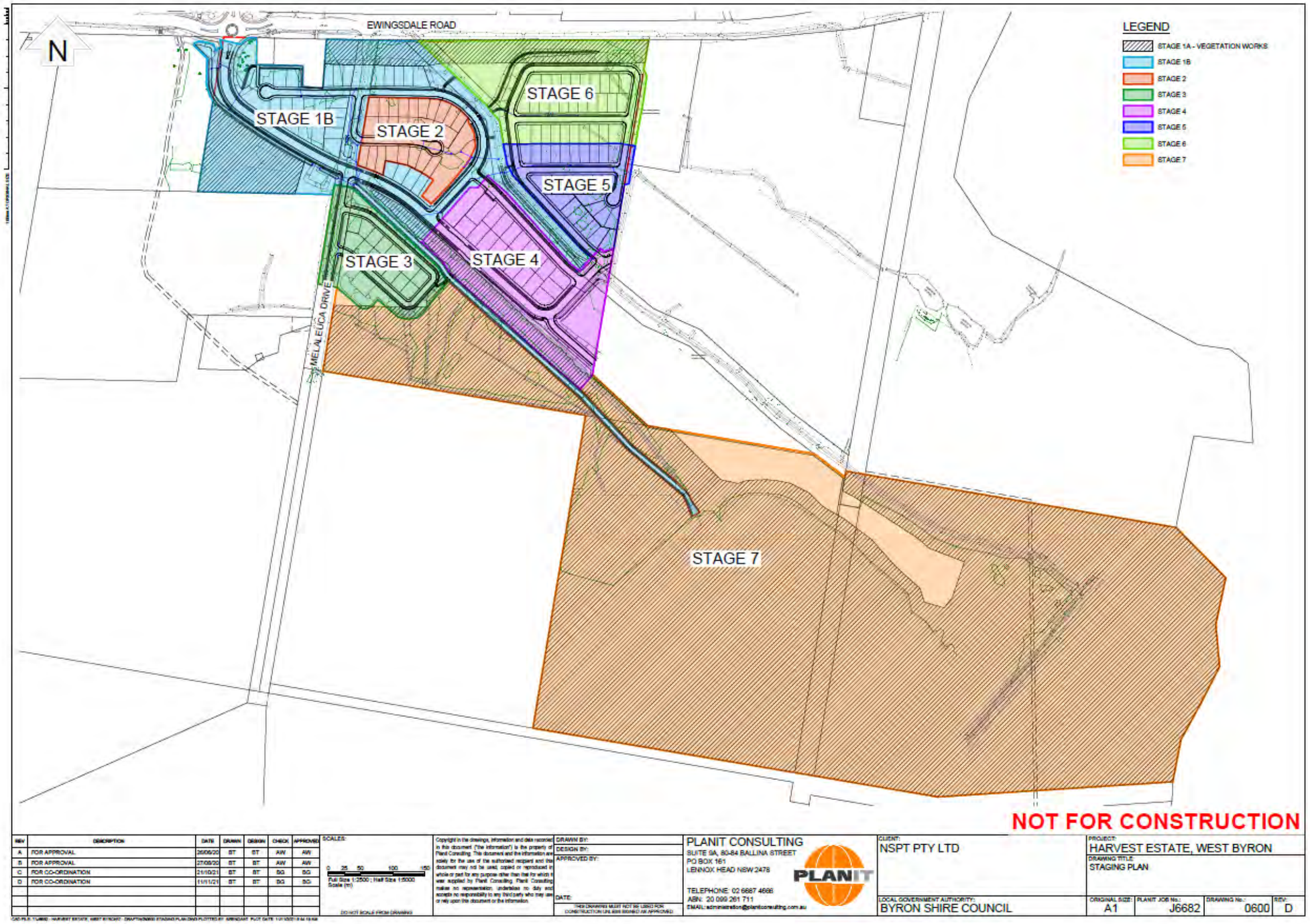


Figure 2: Harvest Estate Approved Layout

2 Revegetation/Rehabilitation Zones

The approved rehabilitation/revegetation zones (RZs) associated with the Harvest Estate are depicted in **Figures 3** and **Appendix 1**. Detailed management plans have been prepared and approved which identify the management requirements and objective for each rehabilitation zone which are summarized below:

Table 4: Rehabilitation Zone Details

Zone	Area (ha)	Rehabilitation Strategy	Targeted Vegetation Type
1	0.87	Reconstruction + Assisted Natural Regeneration	Freshwater Wetland
2	3.90	Reconstruction + Assisted Natural Regeneration	Freshwater Wetland
3	4.60	Reconstruction + Assisted Natural Regeneration	Freshwater Wetland
4	4.38	Reconstruction + Assisted Natural Regeneration	Swamp Sclerophyll Forest
5	0.89	Reconstruction + Assisted Natural Regeneration	Landscaped Buffer
6	35	Assisted Natural Regeneration	Existing Vegetation Communities Protection

NB. in accordance with the approved Harvest Estate Vegetation Management Plan rehabilitation monitoring is not required for the landscape buffer to Ewingsdale Road (RZ5).

2.1 Revegetation/Rehabilitation Monitoring Objective

The design of the approved monitoring protocol for the RZs is simple, replicable and aims to prove the following hypotheses.

Rehabilitation/revegetation of the RZs site will:

- Protect existing native vegetation communities, and associated habitat, within the RZs
- Increase the extent of native habitat (including potential habitat for threatened fauna species) within the RZs
- Increase the abundance and diversity of native flora species within the RZs
- Increase native canopy, mid-strata and ground layer cover across the RZs
- Significantly reduce weed cover and weed diversity within the RZs

2.2 Existing Vegetation Communities

Detailed surveying of the existing vegetation communities contained within the RZs are documented within the *Terrestrial Flora and Fauna Assessment (Planit, 2020)* and include the following as presented in **Figure 4**:

1. Mid-High to Tall Open Forest (Broad-Leaved Paperbark
2. Mid-High to Tall Open Dry Heath +/- Broad-Leaved Paperbark
3. Tall to Very Tall Open Forest (Brush Box)
4. Tall to Very Tall Open Forest (Swamp Mahogany)
5. Mid-High to Tall Open Forest (Swamp Oak)
6. Low to Mid-High Open Woodland (Coastal Banksia)
7. Paperbark Swamp Forest of The Coastal Lowlands
8. Freshwater Wetland
9. Grassed Paddocks with Scattered Trees and Regrowth

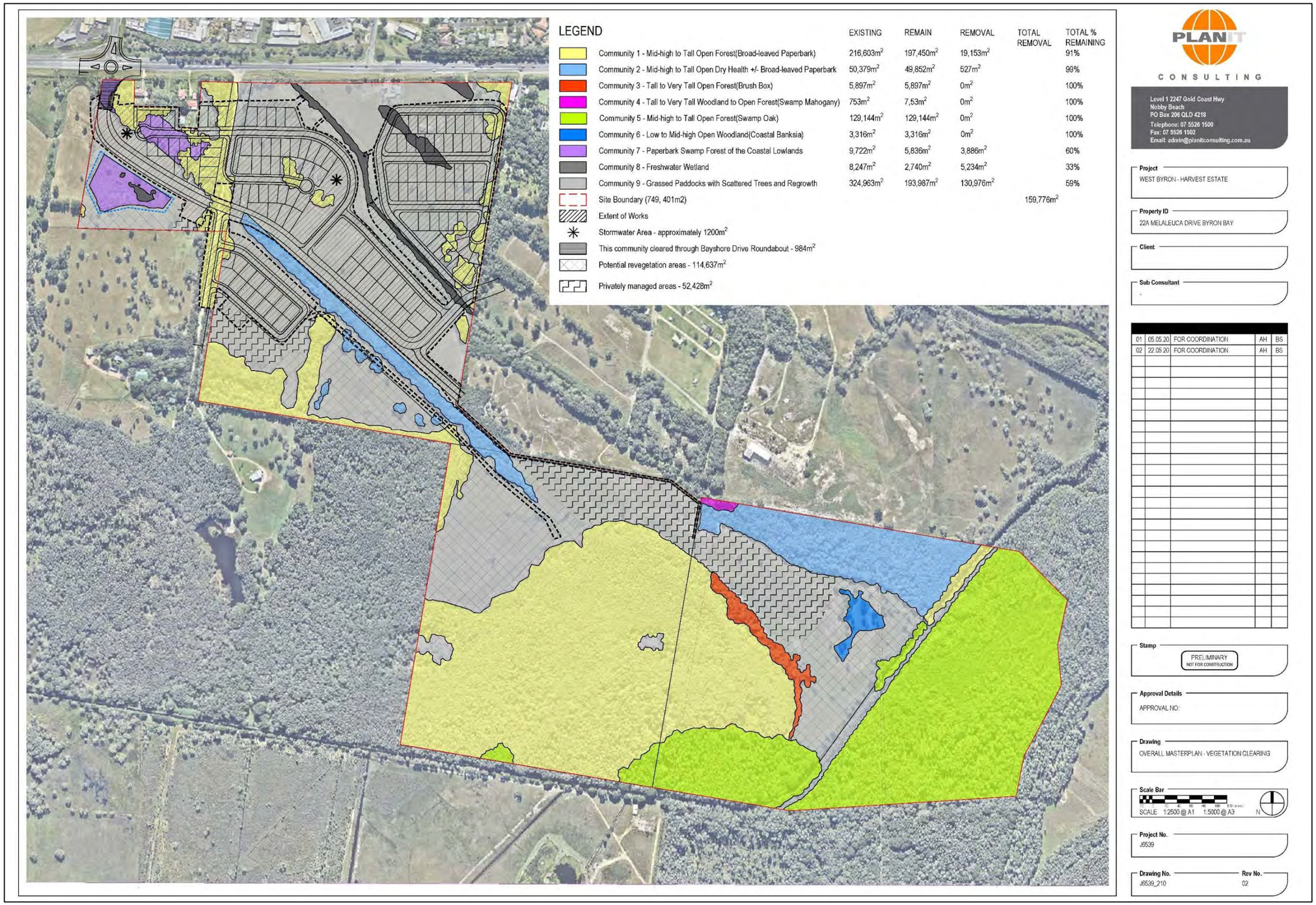
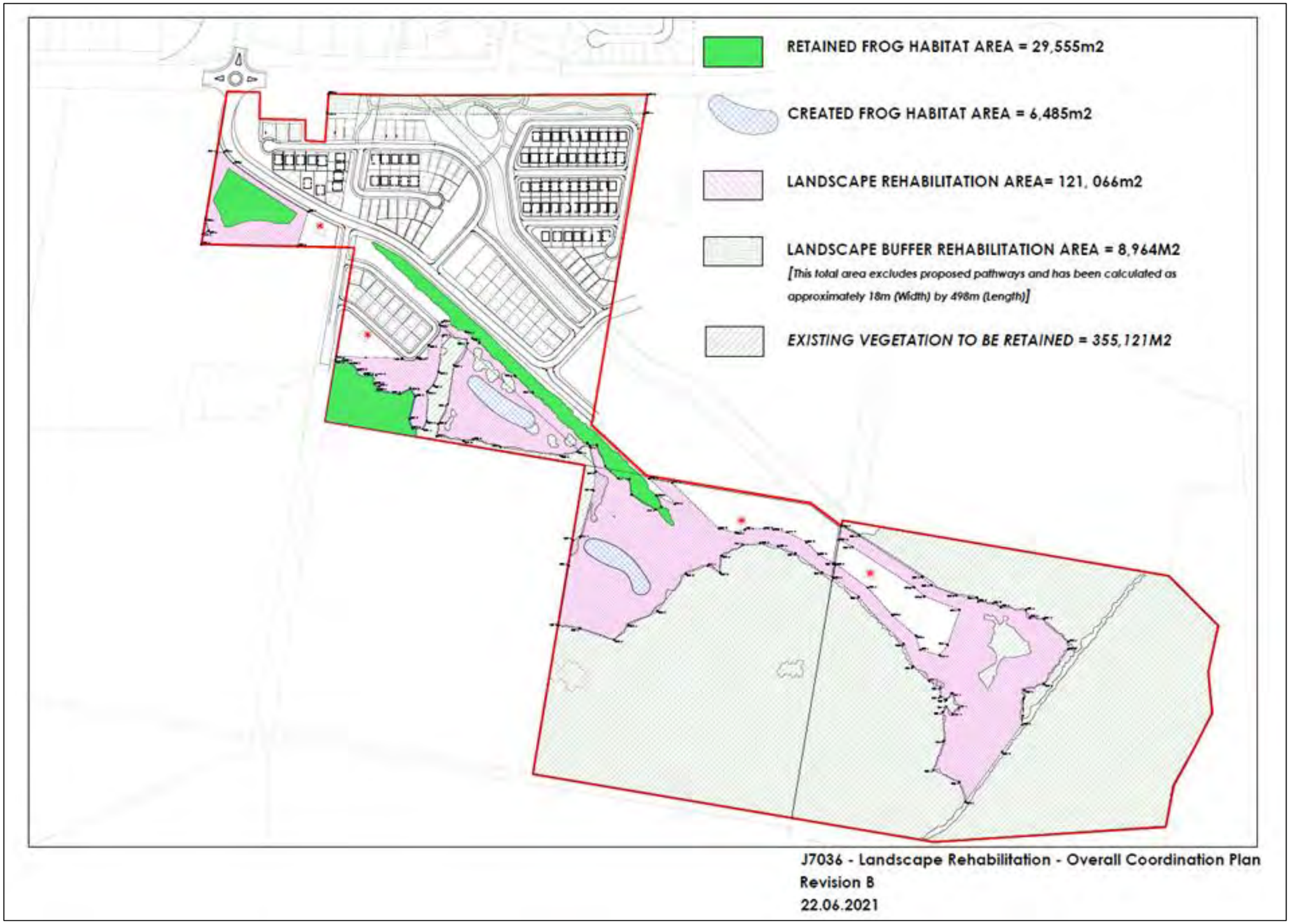


Figure 3: Harvest Estate Existing Vegetation Communities


RETAINED FROG HABITAT AREA = 29,555m2
CREATED FROG HABITAT AREA = 6,485m2
LANDSCAPE REHABILITATION AREA= 121, 066m2
LANDSCAPE BUFFER REHABILITATION AREA = 8,964M2
[This total area excludes proposed pathways and has been calculated as approximately 18m (Width) by 498m (Length)]
EXISTING VEGETATION TO BE RETAINED = 355,121M2
J7036 - Landscape Rehabilitation - Overall Coordination Plan
Revision B
22.06.2021

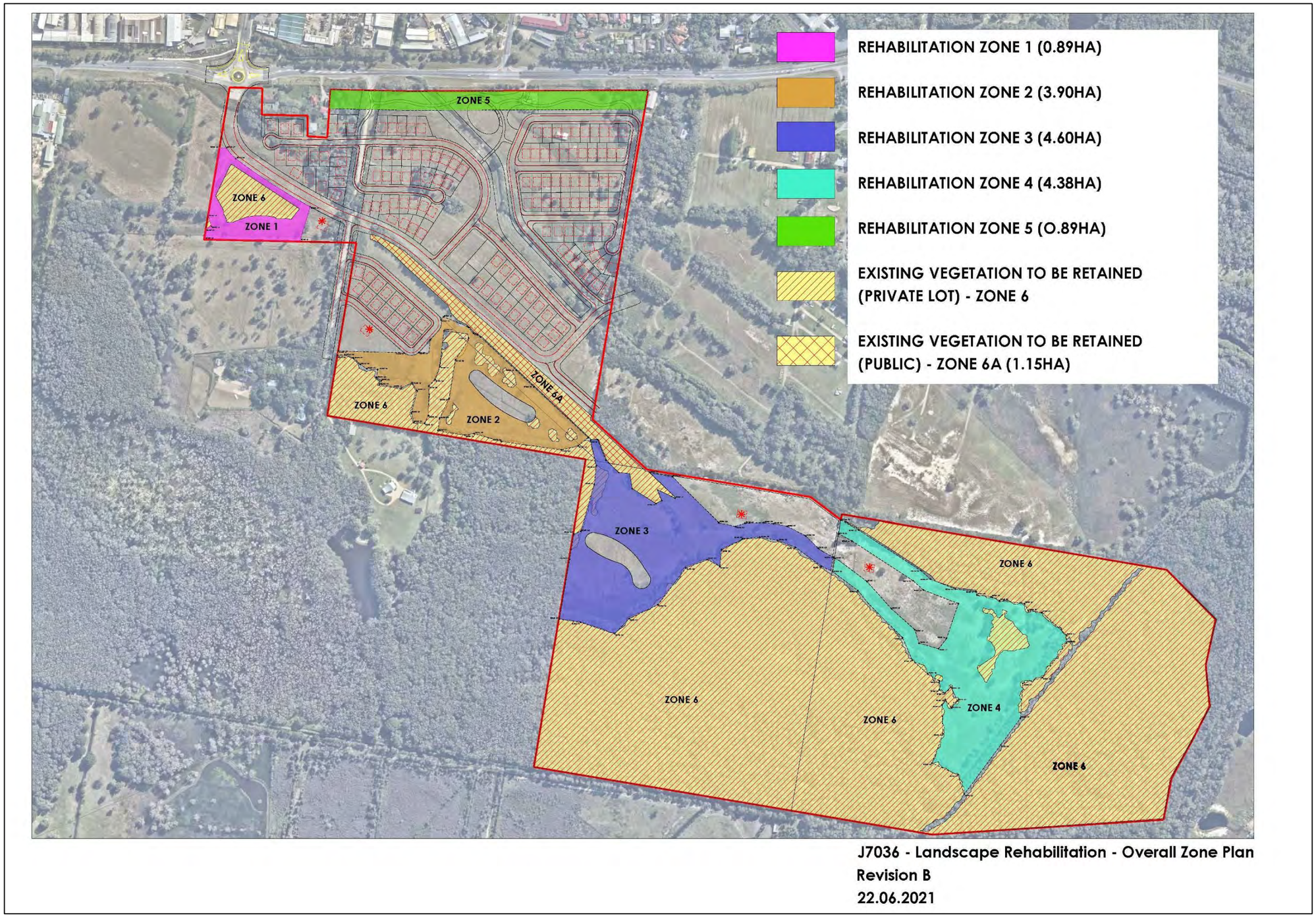


Figure 4: Approved Rehabilitation/Revegetation Zone

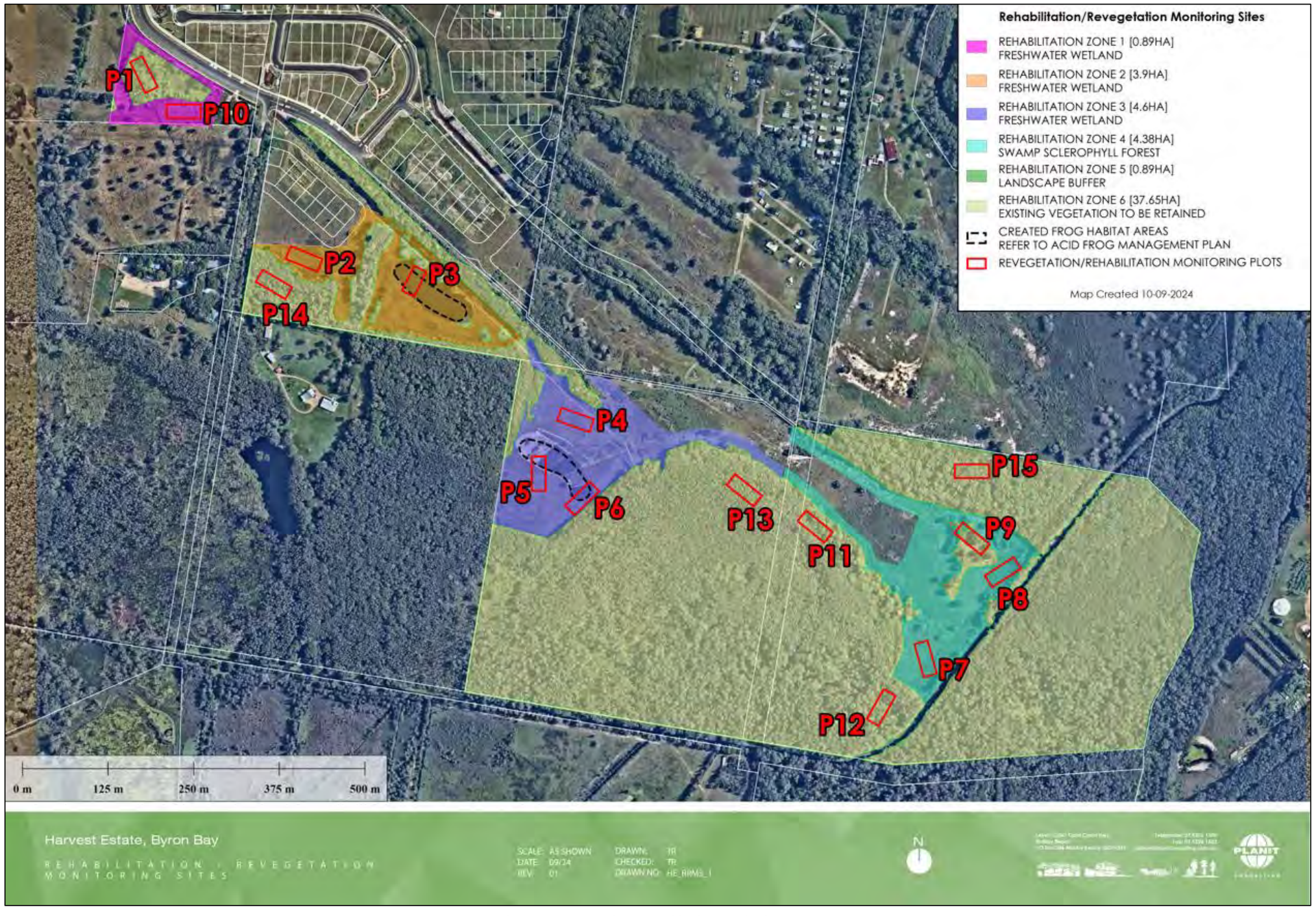


Figure 5: Revegetation/Rehabilitation Monitoring Plots

3 Monitoring Requirements

This section provides a summary of the RZ monitoring requirements. Revegetation/rehabilitation progress shall be performed twice a year for the first five years and annually thereafter with an annual report produced as required by the provisions of the approved Harvest Estate Vegetation Management Plan.

3.1 Monitoring Frequency

In accordance with the approved Harvest Estate Vegetation Management Plan revegetation/rehabilitation monitoring is to occur for each rehabilitation zone:

YEARS 1-5

- Six monthly visual monitoring results and photographs
- Six monthly monitoring and completion of the required monitoring forms for the 15 x 1000m^2 permanent monitoring quadrats
- Six-monthly monitoring of compliance with the rehabilitation zone performance criteria (refer approved Vegetation Management Plan Section 5.3)

AFTER YEAR 5

- Annual visual monitoring results and photographs as outlined above
- Annual monitoring and completion of the required monitoring forms for the 15 x 1000m^2 permanent monitoring quadrats
- Annual monitoring of compliance with the rehabilitation zone performance criteria (refer approved Vegetation Management Plan Section 5.3)

The monitoring efforts will inform maintenance requirements (particularly with regard to weed management), enable assessment against performance criteria, trigger for maintenance and/or correction actions and allow comparison of the rehabilitation zones to their pre-management condition.

Note that a less intensive regime is approved following a five-year period when the rehabilitation zones are likely to be well established with native vegetation cover.

3.2 Monitoring Methodology

The monitoring methodology is described in Section 5.2 of the approved Vegetation Management Plan and the baseline results established in accordance with the VMP prepared in February 2022. The August/September 2025 monitoring results for the 15 x 1000m2 permanent monitoring plots are presented in **Appendix 2**.

4 Results Summary

Upon completion of the required surveys an Annual Monitoring Report (hard copy and electronic PDF document) is to be prepared including:

- Formal monitoring of the 15 permanent monitoring plots including forms and photographs
- Assessment of progress against revegetation/rehabilitation performance requirements (refer approved Vegetation Management Plan Section 5.3)
- Incidences of non-compliance and corrective action (if applicable) (refer approved Vegetation Management Section 5.3)
- A work log of all monitoring/maintenance (and corrective action where required) activities performed by the appointed landscape contractor/bush regenerator during the preceding 12 months.

4.1 Monitoring Plot Results

The monitoring forms and photographs for the 15 permanent monitoring plots are presented within **Appendix 2**. Condition improvement was observed (between baseline and September 2025) across all plots except P14 due to a very slight increase in weeds noted which are to be treated during the next round of routine weed control.

Most monitoring plots displayed obvious rehabilitation improvement from baseline as a result of weed control and subsequent rehabilitation and revegetation, or a combination of both. A higher rainfall average over the past year has also benefitted the restoration works which largely comprises of wetland and swamp sclerophyll species.

An increase in condition was observed between September 2024 and September 2025 for plots P2, P3, P10 and P13. The main reason for this was due to the increase in native vegetation coverage and height and becoming well-established.

A summary score table, spider graph and example comparison photos between Baseline, November 2022, September 2023, September 2024 and September 2025 are provided below.

Table 5: Condition Score Summary

Form B Overall Condition Score Summary					
Plot No.	**Baseline**	**Nov. 22**	**Sep. 23**	**Sep. 24**	**Sep. 25**
P1	100	100	99	100	100
P2	60	92.5	80	80	87.5
P3	55	67.5	70	87.5	90
P4	52.5	85	80	80	87.5
P5	65	70	67.5	75	75
P6	90	92.5	92.5	95	95
P7	52.5	80	75	82.5	82.5
P8	70	82.5	85	90	90
P9	80	92.5	95	92.5	92.5
P10	52.5	80	80	75	80
P11	99	99.5	99.5	99.5	99.5
P12	80	82.5	95	98.5	98.5
P13	97.5	97.5	99	97.5	98.5
P14	100	100	100	99.5	99.5
P15	99	100	100	99.5	99.5

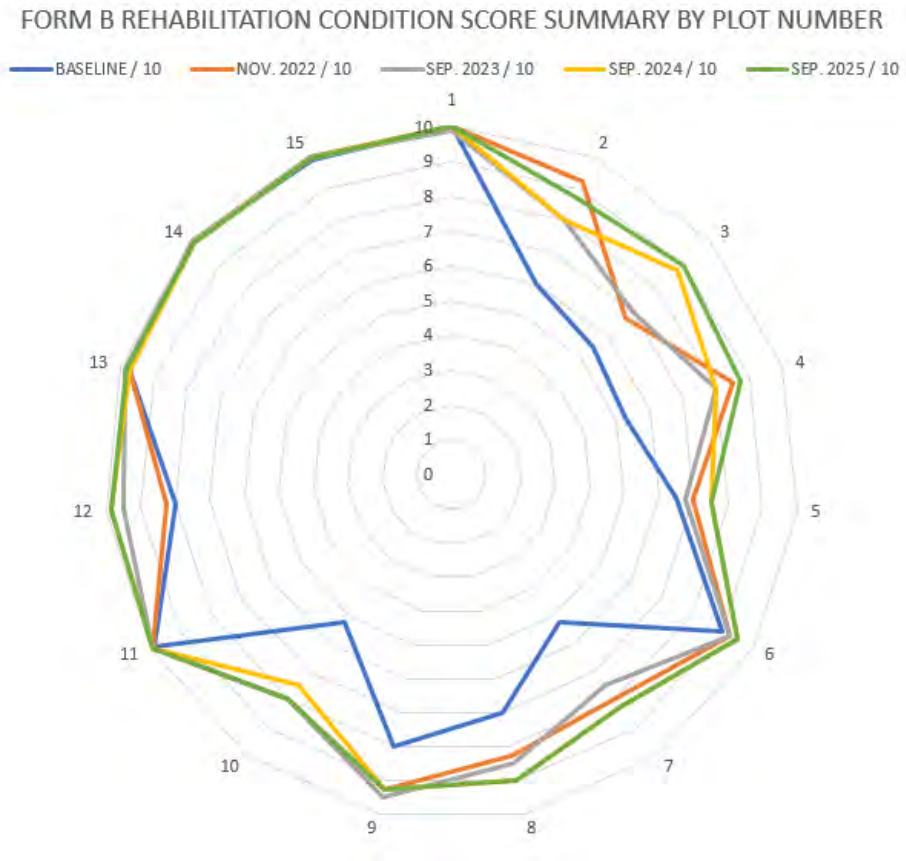


Figure 6: Condition Score Baseline Comparison

Table 6: Examples of Improvement Between Baseline, November 2022, September 2024 and September 2025

			
PLOT 2 BASELINE @ 25M	PLOT 2 NOV 2022 @ 25M	PLOT 2 SEP 2024 @ 25M	PLOT 2 AUG 2025 @ 25M
			
PLOT 4 BASELINE @ 0M	PLOT 4 NOV 2022 @ 0M	PLOT 4 SEP 2024 @ 0M	PLOT 4 SEP 2025 @ 0M
			
PLOT 6 BASELINE @ 50M	PLOT 6 NOV 2022 @ 50M	PLOT 6 SEP 2024 @ 50M	PLOT 6 SEP 2025 @ 50M

			
PLOT 8 BASELINE @ 0M	PLOT 8 NOV 2022 @ 0M	PLOT 8 SEP 2024 @ 0M	PLOT 8 SEP 2025 @ 0M
			
PLOT 9 BASELINE @ NW 50M	PLOT 9 NOV 2022 @ NW 50M	PLOT 9 SEP 2024 @ NW 50M	PLOT 9 SEP 2025 @ NW 50M
			
PLOT 10 BASELINE @ N 25M	PLOT 10 NOV 2022 @ N 25M	PLOT 10 SEP 2024 @ N 25M	PLOT 10 SEP 2025 @ N 25M

			
PLOT 6 BASELINE @ N 25M	PLOT 6 NOV 2022 @ N 25M	PLOT 6 SEP 2024 @ N 25M [POST FROG POND CREATION]	PLOT 6 SEP 2025 @ N 25M [POST FROG POND CREATION]
			
PLOT 5 BASELINE @ 0M	PLOT 5 NOV 2022 @ 0M	PLOT 5 SEP 2024 @ 0M [POST FROG POND CREATION]	PLOT 5 SEP 2025 @ 0M [POST FROG POND CREATION]
			
REHAB ZONE 2 BASELINE	REHAB ZONE 2 NOV 2023 POST FROG POND CREATION AND PRIOR TO INFILL PLANTINGS	REHAB ZONE 2 SEP 2024 POST FROG POND CREATION AND INFILL PLANTINGS	REHAB ZONE 2 SEP 2025 POST FROG POND CREATION AND INFILL PLANTINGS

Minor typical rehabilitation issues were observed within several of the monitoring plots and rehabilitation zones in general which are summarised below, although none are considered to be reasonable threats of failure at this stage of the management program. These are predominately related to weed re-establishment. Such issues are summarised below but are not present to a significant degree such that the plots have been inhibited in improving from baseline surveys:

Table 7: Minor Issue Summary and Nomination of Routine/Reactive Maintenance Responses

Plot No.	Rehabilitation Issue	Maintenance-Routine	Maintenance Reactive
P1	Nil.	Monitor for weeds and apply control as needed.	Nil.
P2	Re-establishment of pasture grass and Columbian Waxweed Performance criteria for weed coverage not achieved. Vegetation protection fencing requiring repairs.	Follow up spot weed control.	Routine weed control. Supplementary plantings required to infill areas of pasture grass post treatment. Vegetation protection fencing requiring repairs at the interface between future Stage 3 and Rehabilitation Zone 2.
P3	Re-establishment of pasture grass. Performance criteria for weeds and planting survival rate not achieved. Several plantings have died and require replacement. Minor fencing repairs required.	Follow up spot weed control. Monitor frog pond plantings success.	Frog pond created and planted out with aquatic/wetland species. Weed control required for pasture grasses in areas external to the created frog pond. Replace dead plantings. Vegetation protection fencing requires minor repairs at the interface between future Stage 3 and Rehabilitation Zone 3.
P4	Re-establishment of pasture grass and Columbian Waxweed. Performance criteria for weeds and coverage not achieved, including areas associated with the previous construction access track for the frog ponds.	Follow up spot weed control.	Ongoing routine management of pasture grasses. Weed control required for pasture grasses. Supplementary plantings required to infill areas of pasture grass post treatment and along the frog pond construction access tracks.
P5	Pasture grasses dominant within areas external to created frog pond. Performance criteria for weeds and coverage not achieved.	Follow up spot weed control. Monitor frog pond plantings success.	Frog pond created and planted out with aquatic/wetland species. Supplementary plantings within areas external to frog pond to increase coverage as per the approved Rehabilitation Plan (Planit, 2020).

Plot No.	Rehabilitation Issue	Maintenance-Routine	Maintenance Reactive
			Weed control required for pasture grasses in areas external to the frog pond.
P6	Pasture grass prominent in areas, in particularly within the northern areas of the Plot which is drier. Performance criteria for weeds not achieved.	Follow up spot weed control. Monitor frog pond plantings success.	Frog pond created and planted out with aquatic/wetland species. Weed control required for pasture grasses in areas external to the frog pond with potential infill plantings where coverage criteria not met.
P7	Pasture grass re-establishing. Performance criteria for weeds and coverage not achieved.	Follow up spot weed control.	Ongoing routine management of pasture grasses. Treatment of pasture grasses required. Supplementary plantings required following treatment of pasture grasses.
P8	Pasture grass re-establishing Performance criteria for weeds and survival rate of plantings not achieved. Several tree guards down. Pasture grasses noted smothering several plantings within the tree guards.	Follow up spot weed control.	Ongoing routine management of pasture grasses. Treatment of pasture grasses required. Refit/repair several tree guards.
P9	Pasture grass and some weeds re-establishing. Performance criteria for weeds not achieved.	Follow up spot weed control.	Ongoing routine management of pasture grasses. Treatment of pasture grasses and weeds required.
P10	Pasture grass and some herbaceous weeds re-establishing. Protection fencing requires repairing. Performance criteria for weeds and coverage not achieved.	Follow up spot weed control.	Ongoing routine management of pasture grasses. Treatment of pasture grasses and herbaceous weeds required. Supplementary plantings required following treatment of pasture grasses. Repair protection fencing.
P11	Minor areas of Paspalum, Coral Berry and Umbrella Tree present.	Follow up spot weed control.	Treat areas of Paspalum, Coral Berry and large Umbrella Tree.

Plot No.	Rehabilitation Issue	Maintenance-Routine	Maintenance Reactive
P12	Minor areas of Paspalum and Easter Cassia present.	Follow up spot weed control.	Treat areas of Paspalum and Easter Cassia.
P13	Areas of Paspalum present.	Follow up spot weed control.	Treat areas of Paspalum.
P14	Several isolated stems of Easter Cassia and small patches of Paspalum present.	Follow up weed control.	Ongoing routine weed management.
P15	Several Coral Berry plants present.	Follow up weed control.	Ongoing routine weed management.

Plot surveys are contained within **Appendix 2.**

4.2 Performance Criteria Assessment

An assessment of the rehabilitation/revegetation project against the performance criteria of Section 5.3 of the approved VMP is a bi-annual requirement. Areas of non-compliance are proposed to be managed as identified in **Table 7** and **Table 8** and progress will be re-assessed in association with the next monitoring survey undertaken in early 2026.

Table 8: Performance Criteria Assessment

Performance Criteria	Compliance	Additional Comments
The contractor undertaking regeneration works is to be a suitably qualified professional with necessary licencing/permits.	Complies.	No action required.
Existing native vegetation and areas of natural regeneration to be retained (where applicable).	Compliant across the ~48ha rehabilitation zone. No designated rehabilitation areas have been cleared/removed since the previous annual report. Vegetation protection fencing requiring repairing/installation within several location as noted within **Table 7** above	Ongoing monitoring of vegetation protection and exclusion fencing proximate to works interface to occur. As noted within **Table 7** and **Appendix 2.**
All rubbish/vegetation dumping, non-approved structures etc. are removed from the Rehabilitation Zones.	Generally compliant across the ~48ha rehabilitation zone. Some minor rubbish debris (i.e. planting tubes, planting labels, bottles) noted within the rehabilitation zones which are to be removed during routine inspections.	Removal of rubbish to occur. Ongoing monitoring required.

Performance Criteria	Compliance	Additional Comments
Cattle and domestic animals are excluded.	Complies.	Ongoing monitoring required.
A significant reduction in the presence of weed species is evident. In practice it is noted that the removal of all individuals of all weed species for 100% of the time is unachievable. Therefore, it is considered appropriate that the following performance criteria be adopted: • **All large weed/ornamental trees are treated;** • **No weed shrubs/trees older than six months of age are present;** • **Densities of such shrubs/trees is not to exceed 1 per 20m2; and** • **Scattered groundcover weed species may occur but not in any covering an area greaterthan 5m^2.**	Generally compliant across the ~48ha rehabilitation zone. The non-compliant areas occur within sections of Rehabilitation Zones 1-4 which has seen a relatively consistent coverage of pasture grass since the previous annual report. On-going treatment of these areas are required. It's noted that it may take several years for the pasture grass to be controlled with the hope that native ground-layer vegetation will eventually smother and take over the pasture grass, which is already evident within several rehabilitation zones. Routine maintenance weed control is to continue to occur per the VMP. Previously treated camphor laurel trees have since died and falling apart.	Routine monitoring and control in accordance with VMP to occur. Continued monitoring of treated pasture grasses for natural regeneration with supplementary plantings to occur where necessary to achieve coverage performance criteria. Treatment of pasture grass and some areas of herbaceous weeds required as depicted within **Table 7** and **Appendix 2**.
A survival rate of the following minimum standards are to apply for all planted trees, shrubs and groundcovers: • **One year following planting: 95%** • **Three years following planting: 90%** • **Five years following planting: 90%**	Compliant. Whilst several plantings have died, the overall survival rate success was above 90%, with the exception of Rehabilitation Zone 2 which was slightly below and requires some replacement plantings.	Ongoing monitoring and corrective actions (where required) as follows: Replace plantings which have died within Rehabilitation Zone 2.
Growth rate targets per VMP table 6.	Compliant. An increase in native height and coverage was noted throughout all rehabilitation zones.	Ongoing monitoring proposed with corrective actions to be implemented where required.
Inappropriate public access to the Rehabilitation Zones is to be effectively restricted (through fencing or signage).	Complies.	No residents yet. Ongoing monitoring of vegetation protection and exclusion fencing proximate to works interface to occur. As previously noted, some areas of protection fencing requiring repairs.

Performance Criteria	Compliance	Additional Comments
Assisted natural regeneration per VMP Section 5.3.1 Coverage Success	Not yet compliant across all areas. An increase in height, diversity and coverage was noted throughout all rehabilitation zones. Areas of Rehabilitation zones 1-4 did not meet the performance criteria for coverage. The main issue for this was due to the pasture grass coverage. The pasture grass coverage has likely affected the natural regeneration potential throughout the rehabilitation zones.	Corrective action proposed: Routine monitoring and control in accordance with VMP to occur. Treatment of pasture grass within Rehabilitation Zones 1-4 are to occur. At the end of year 3 areas below coverage success are to be treated with supplementary planting in accordance with VMP Section 5.3.1 and 4.4.1 (refer to **Table 7** and **Appendix 2**).



VEGETATION PROTECTION/REHABILITATION FENCING & SIGNAGE



PLANTINGS INCREASING IN HEIGHT AND COVERAGE – REHABILITATION ZONE 1



INCIDENCE OF NON-COMPLIANCE TO BE RECTIFIED: FENCNG REQUIRING MINOR REPAIRS



INCIDENCE OF NON-COMPLIANCE TO BE RECTIFIED: WEEDS AND CANOPY COVERAGE NOT ACHEIVED – REHABILITATION ZONE 1



CREATED FROG POND PLANTINGS ESTABLISHING NICELY – REHABILITATION ZONE 3



INCIDENCE OF NON-COMPLIANCE TO BE RECTIFIED: PLANTING SURVIVAL RATE – REHABILITATION ZONE 2



INCIDENCE OF NON-COMPLIANCE TO BE RECTIFIED: WEEDS / GROUNDCOVER COVERAGE – REHABILITATION ZONE 4



PREVIOUSLY TREATED CAMPHOR LAUREL DEAD AND FALLING APART- REHABILITATION ZONE 6



SEVERAL TREES HAVE FALLEN SINCE THE LAST ANNUAL REPORT, LIKELY FROM CYCLONE ALFRED



NESTBOXES WITHIN REHABILITATION ZONE 4

In accordance with the VMP, the next flora survey shall be performed in early 2026 and will be the fourth monitoring report to be performed after initiation of the rehabilitation/revegetation project.

Data collected during the next survey shall be compared to the baseline survey as well as previous surveys to track progress across time and report back on the success on the ongoing routine management and the recommended adaptive/reactive measures proposed in this document.

Appendix 1 – Approved Rehabilitation / Revegetation Plans

WEST BYRON - Rehabilitation Plan (ZONE 1)

30 June '22

- Low assist regen
- High Assist Regen
- Weed Control
- - ? all areas





Location Plan NTS

Legend

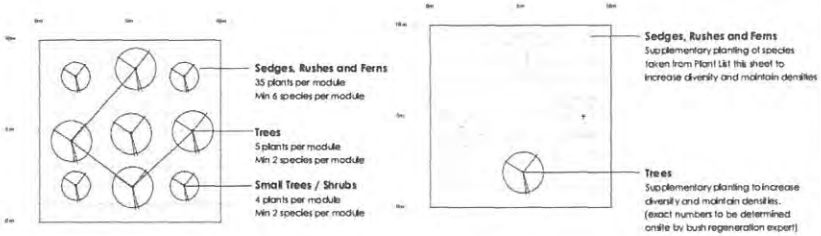
- LANDSCAPE REHABILITATION AREAS. Refer to relevant species lists and typical planting modules on this sheet.
- EXISTING VEGETATION COMMUNITY TO BE RETAINED. Refer to Vegetation Management Plan prepared by Planit Consulting for further information.
- REHAB 1.0 BOUNDARY PEGS. Boundary of rehabilitation areas to be pegged out by surveyor prior to commencement of works. Pegs to be star pickets / galv pipe to minimum 1 meter above ground painted yellow with notation to match as noted on these plans. Existing vegetation line to form all other boundaries as indicated this sheet.

Rehabilitation Zone 1

Total Area: 0.89Ha

Vegetation Type: Fresh-water Wetland

Scale: 1:1000 at full size A1



Planting Module 1 - Freshwater Wetland NTS

PIONEER SPECIES PLANTING 10 x 10 meter module

Planting Module 2 - Freshwater Wetland NTS

SUPPLEMENTARY SPECIES PLANTING 10 x 10 meter module

REHABILITATION ZONE 1 (89 MODULES)

TREES

Refer to Planting Module 1 and 2 for layout

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
cas gla	Casuarina glauca	Swamp Oak	5	140MM	445
cal sal	Callistemon salignus	Willow bottlebrush			
lep sco	Leptospermum scoparium	Swamptea			
mel qui	Melaleuca quinquenervia	Paperbark			
euc rob	Eucalyptus robusta	Swamp Mahogany			
euc ter	Eucalyptus tereticornis	Forest Red Gum			

SMALL TREES / SHRUBS

Refer to Planting Module 1 and 2 for layout

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
bre obl	Breynia oblongifolia	Breynia	4	140MM	356
hov act	Hovea acutifolia	Painted-Leaf HOvea			
mel ett	Melastoma ellitica	Blue Tongue			
lep pol	Leptospermum polygalifolium	Yellow Tea Tree			
bae fru	Baeckea frutescens	Weeping Baeckea			
cal pac	Callistemon pachyphyllus	Wollum bottlebrush			
ban rob	Banksia robur	Swamp Banksia			

SEDGES, RUSHES + FERNS -

Refer to Planting Module 1 and 2 for layout

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
bay jun	Baumea juncea	Bare Twigrush	35 min 6 species per mod	75MM TUBE	3115
bau ter	Baumea teretifolia	Twigrush			
ble lin	Blechnum indicum	Bungwall fern			
cen asi	Centella asiatica	Pennywort			
cyp pul	Cyperus polystachyos	Bunchy Sedge			
jun usi	Juncus usitatus	Common Rush			
phl lan	Philydrum lanuginosum	Frogsmouth			
gah cla	Gahnia clarkei	Saw Sedge			
bau rub	Baumea rubiginosa	Twig Rush			

Rehabilitation Zone 1 Schedule

Stage	Year 1	Year 2	Year 3	Year 4	Year 5+
Stage 1 Total Area: 0.89Ha	PLANTING MODULE 1 PIONEER SPECIES PLANTING 'Seed and Small Tree' selection from Rehabilitation Area 1 species list this sheet. Exact numbers to achieve densities as stated dependent on natural regeneration (determined onsite by regeneration expert)	PLANTING MODULE 2 SUPPLEMENTARY SPECIES PLANTING Supplementary planting to increase diversity.	Natural Regeneration Weed Management Monitoring and maintenance as per VMP - prepared by Planit	Natural Regeneration Weed Management Monitoring and maintenance as per VMP - prepared by Planit	Natural Regeneration Weed Management Monitoring and maintenance as per VMP - prepared by Planit
	Ongoing monitoring and maintenance as per VMP				

PROJECT: REHABILITATION PLAN

DRAWING TITLE: ZONE 1

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECKED
01	LANDSCAPE DPW FOR INFORMATION	18.04.18	AH	AH	JA
02	LANDSCAPE DPW FOR INFORMATION	18.06.20	AH	AH	LT
03	FOR APPROVAL	06.07.21	AH	AH	LT
04	FOR APPROVAL	19.07.21	AH	AH	LT

JOB NO: J7148 DWG NO: J7148_501

SCALE 1:1000 @ A1 1:2000 @ A3

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WEST BYRON - Rehabilitation Plan (ZONE 2)



Legend

- LANDSCAPE REHABILITATION AREAS — Refer to relevant species lists and typical planting modules on this sheet.
- EXISTING VEGETATION COMMUNITY TO BE RETAINED. Refer to Vegetation Management Plan prepared by Planit Consulting for further information.
- HABITAT CREATION AREAS FOR ACID FROGS. Refer to Acid Frog Habitat Plan prepared by Planit Consulting for further information.
- REHAB 1.0 — BOUNDARY PEGS. Boundary of rehabilitation areas to be pegged out by surveyor prior to commencement of works. Pegs to be star pickets / galv pipe to minimum 1 meter above ground painted yellow with notation to match as noted on these plans. Existing vegetation line to form all other boundaries as indicated this sheet.

Low amount Regen

High amount Regen

Weed Control - To all areas



Location Plan NTS

Scale: 1:1000 at full size A1

Rehabilitation Zone 2

Total Area: 3.9Ha

Vegetation Type: Fresh-water Wetland

REHABILITATION ZONE 2 (390 MODULES)

TREES

Refer to Planting Module 1 and 2 for layout

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
cas gla	Casuarina glauca	Swamp Oak	5	140MM	1950
cal sal	Callistemon salignus	Willow bottlebrush			
lop sou	Lophostemon suaveolens	Swampbox			
mel qui	Melaleuca quinquenervia	Paperbark			
euc rob	Eucalyptus robusta	Swamp Mahogany			
euc ter	Eucalyptus tereticornis	Forest Red Gum			

SMALL TREES / SHRUBS

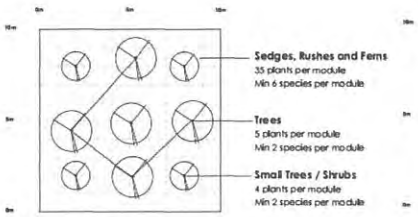
Refer to Planting Module 1 and 2 for layout

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
bre ast	Breynia oblongifolia	Breynia	4	75MM	1560
hov ell	Hovea ellipticifolia	Painted-Leaf Hovea			
mel aff	Melastoma affine	Blue Tongue			
lep pet	Leptospermum polygalifolium	Yellow Tea Tree			
bau hy	Baeckea hutacoana	Weeping Baeckea			
cal pac	Callistemon pachyphyllus	Wollum bottlebrush			
ban rob	Banksia robur	Swamp Banksia			

SEDGES, RUSHES + FERNS

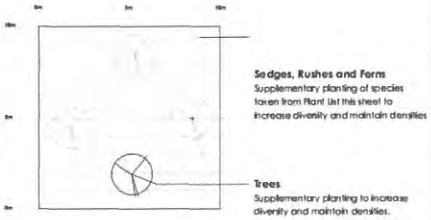
Refer to Planting Module 1 and 2 for layout

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
bau jun	Baumea juncea	Bare Twigrush	35 min 6 species per mod	75MM TUBE	13,650
bau ter	Baumea teretifolia	Twigrush			
ble ind	Blechnum indicum	Bungwall Fern			
cen asi	Centella asiatica	Pennywort			
cyp pol	Cyperus polystachyos	Bunchy Sedge			
jun vil	Juncus villosus	Common Rush			
phi lon	Phillydrum lanuginosum	Frogsmouth			
gah cla	Gahnia clarkei	Saw Sedge			
bau rub	Baumea rubiginosa	Twig Rush			



Planting Module 1 - Freshwater Wetland

PIONEER SPECIES PLANTING 10 x 10 meter module NTS



Planting Module 2 - Freshwater Wetland

SUPPLEMENTARY SPECIES PLANTING 10 x 10 meter module NTS

Rehabilitation Zone 2 Schedule

Stage	Year 1	Year 2	Year 3	Year 4	Year 5+
Stage 1 Total Area: 3.9Ha	PLANTING MODULE 1 Species selected from Rehabilitation Area 2 species list this sheet, 6 each numbers to achieve densities as stated dependent on natural regeneration (to be determined onsite by Regeneration expert)	PLANTING MODULE 2 SUPPLEMENTARY SPECIES PLANTING Supplementary planting to increase diversity.	Natural Regeneration Weed Management Monitoring and maintenance as per VMP - prepared by Planit	Natural Regeneration Weed Management Monitoring and maintenance as per VMP - prepared by Planit	Natural Regeneration Weed Management Monitoring and maintenance as per VMP - prepared by Planit

PROJECT: REHABILITATION PLAN

DRAWING TITLE: ZONE 2

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECKED
01	LANDSCAPE OPW FOR INFORMATION	18.04.18	AH	AH	JA
02	LANDSCAPE OPW FOR INFORMATION	16.06.20	AH	AH	LT
03	FOR APPROVAL	06.07.21	AH	AH	LT
04	FOR APPROVAL	19.07.21	AH	AH	LT

JOB NO: J7148 DWG NO: J7148_502

SCALE 1:1000 @ A1 1:2000 @ A3

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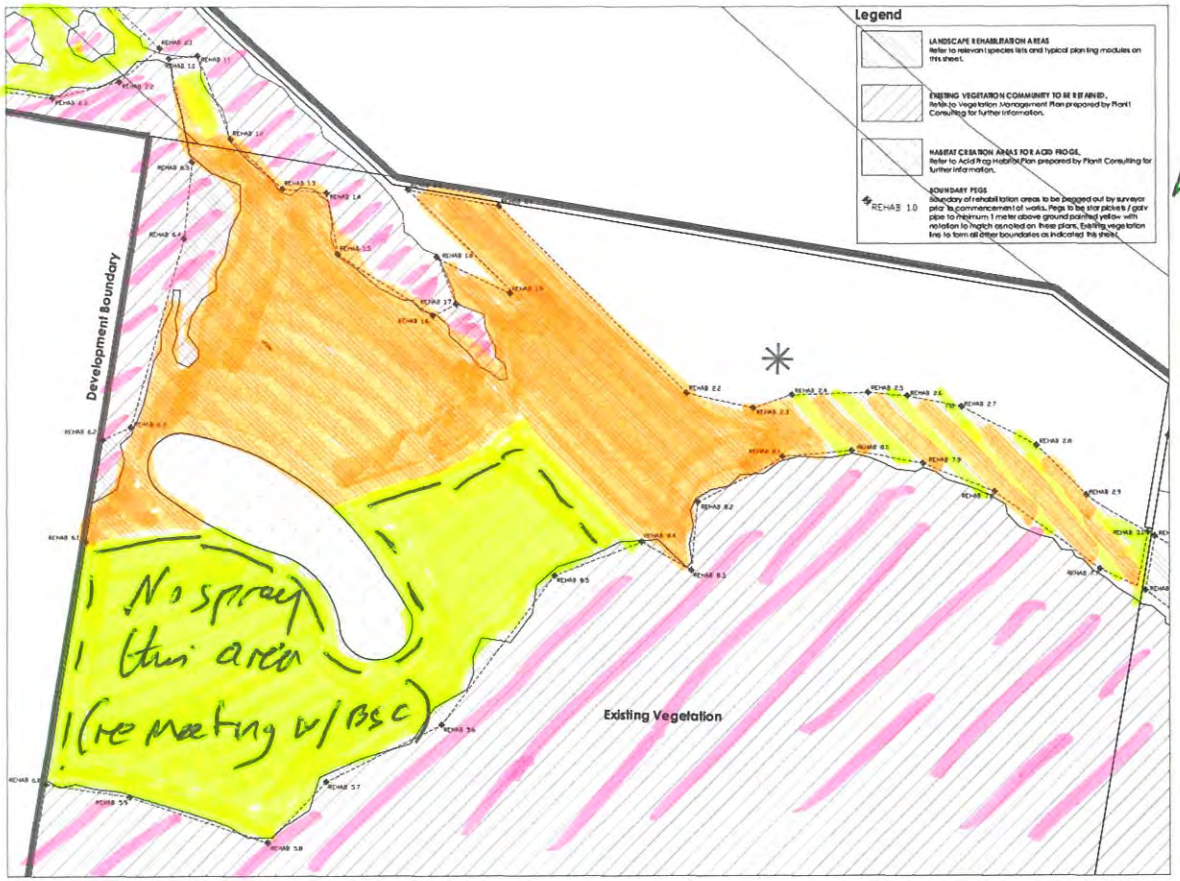
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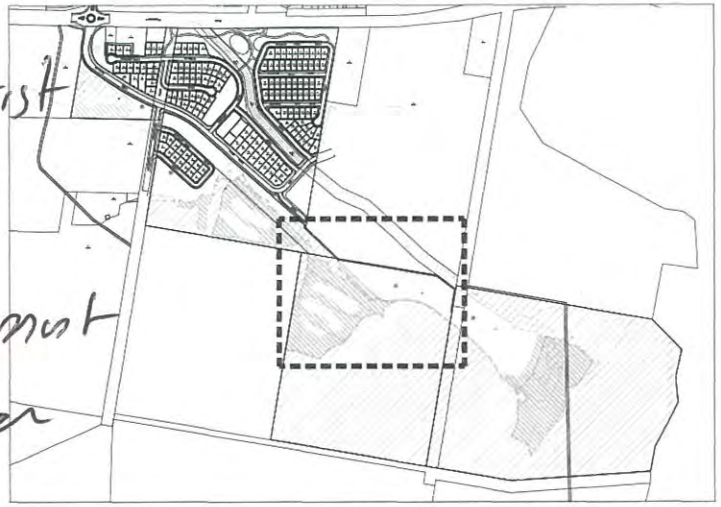
WEST BYRON - Rehabilitation Plan (ZONE 3)



Scale: 1:1000 at full size A1

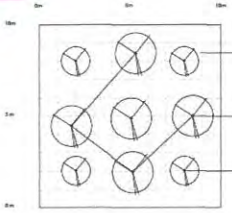
Low assist Regen

High assist Regen



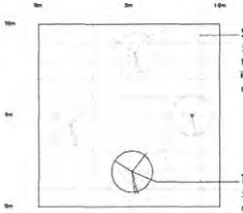
Location Plan NTS

Weed Control - to all areas



Planting Module 1 - Freshwater Wetland NTS

PIONEER SPECIES PLANTING 10 x 10 meter module



Planting Module 2 - Freshwater Wetland NTS

SUPPLEMENTARY SPECIES PLANTING 10 x 10 meter module

Rehabilitation Zone 3

Total Area: 4.6Ha

Vegetation Type: Fresh-water Wetland

REHABILITATION ZONE 3 (460 MODULES)

TREES - module 1, 2

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
cas gla	Casuarina glauca	Swamp Oak	5	140MM	2300
cal sal	Callistemon salignus	Willow Bottlebrush			
lep sou	Lophostemon suaveolens	Swampbox			
mel qui	Melaleuca quinquenervia	Paperbark			
euc rob	Eucalyptus robusta	Swamp Mahogany			
euc ter	Eucalyptus tereticornis	Forest Red Gum			

SMALL TREES / SHRUBS - module 1, 2

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
tre oli	Breynia oblongifolia	Breynia	4	75MM	1840
hov ell	Hovea ewartiana	Pointed-Leaf HOvea			
mel ell	Melastoma affine	Blue Tongue			
lep pet	Leptospermum polygalifolium	Yellow Tea Tree			
bae fru	Baeckea frutescens	Weeping Baeckea			
cal pac	Callistemon pachyphyllus	Wollumbottlebrush			
ban rob	Banksia robur	Swamp Banksia			

SEDGES, RUSHES + FERNS - module 1, 2

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
bau jun	Baumea juncea	Bare Twigrush	35 min 6 species per mod	75MM TUBE	2115
bau ter	Baumea terntifolia	Twigrush			
ble ind	Blechnum indicum	Bungwall fern			
cen asi	Centella asiatica	Penny wort			
cyp pol	Cyperus polystachyos	Bunchy Sedge			
jun vil	Juncus villosus	Common Rush			
phi lan	Phillydrum lanuginosum	Frogsmouth			
gah cla	Gahnia clarkei	Saw Sedge			
bau tub	Baumea tubiginosa	Twig Rush			

Rehabilitation Zone 3 Schedule

Stage	Year 1	Year 2	Year 3	Year 4	Year 5
Stage 1 Total Area: 4.6Ha	**PLANTING MODULE 1** Species selected from Rehabilitation Area 3 species lists sheet. Exact numbers to achieve densities as stated dependent on natural regeneration (infill amendments by Regeneration expert)	**PLANTING MODULE 2** SUPPLEMENTARY SPECIES PLANTING Supplementary planting to increase diversity.	Natural Regeneration Weed Management monitoring and maintenance as per VMP - prepared by Planit	Natural Regeneration Weed Management monitoring and maintenance as per VMP - prepared by Planit	Natural Regeneration Weed Management monitoring and maintenance as per VMP - prepared by Planit
	Ongoing monitoring and maintenance as per VMP				

PROJECT: REHABILITATION PLAN

DRAWING TITLE: ZONE 3

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECKED
01	LANDSCAPE OPW FOR INFORMATION	18.04.18	AH	AH	JA
02	LANDSCAPE OPW FOR INFORMATION	18.06.20	AH	AH	LT
03	FOR APPROVAL	06.07.21	AH	AH	LT
04	FOR APPROVAL	19.07.21	AH	AH	LT

JOB NO: J7148 DWG NO: J7148_503

SCALE 1:1000 @ A1 1:2000 @ A3

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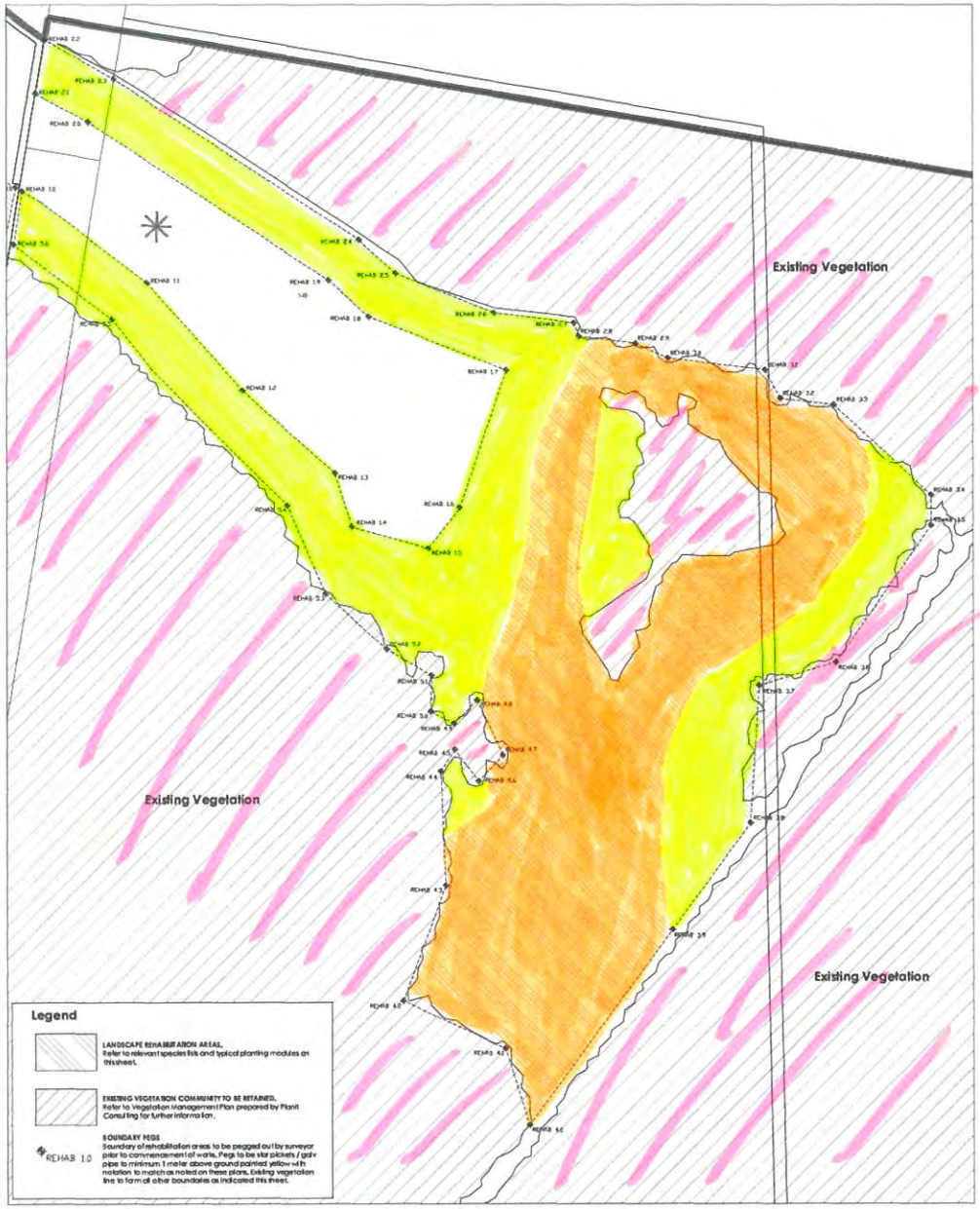
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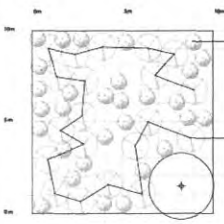
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WEST BYRON - Rehabilitation Plan (ZONE 4)

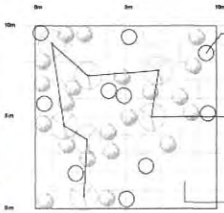


Rehabilitation Zone 4
Total Area: 4.38Ha
Vegetation Type: Swamp Sclerophy II

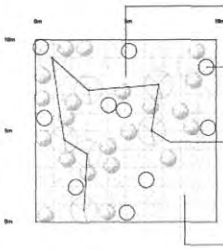
Scale: 1:1000 at full size A1



Planting Module 1 - Swamp Sclerophyll
PIONEER SPECIES PLANTING 10 x 10 meter module NTS



Planting Module 2 - Swamp Sclerophyll
SUPPLEMENTARY SPECIES PLANTING 10 x 10 meter module NTS



Planting Module 3 - Swamp Sclerophyll NTS
SUPPLEMENTARY SPECIES PLANTING TO INCLUDE GROUNDCOVERS 10 x 10 meter module



High amst Regen

Weed Control - B all areas

REHABILITATION ZONE 4 (438 MODULES)

TREES - module 1, 2 and 3

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
cal sal	Callistemon salignus	White Bottlebrush	20 Minimum 3 species selected per module	75MM TUBE	8760
car int	Carynata intermedia	Pink Bloodwood			
euc ter	Eucalyptus tereticornis	Forest Red Gum			
euc rob	Eucalyptus robusta	Swamp Mahogany			
mel qui	Melaleuca quinquenervia	Paperbark			
lop sou	Lophostemon suaveolens	Swamp Box			
lop con	Lophostemon confertus	Brush Box			

SMALL TREES / SHRUBS - module 1, 2 and 3

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
all tor	Allocasuarina torulosa	Forest Oak	30 Minimum 3 species selected per module	75MM TUBE	13140
acr imp	Acronychia imperforata	Beach Acronychia			
ban int	Banksia integrifolia	Coastal Banksia			
lep pet	Leptospermum polygalifolium	Yellow Tea Tree			
ban rob	Banksia robur	Swamp Banksia			
hov acu	Hovea acutifolia	Hovea			
nat lon	Notelaea longifolia	Long-leaved Mock-olive			
bee fru	Beaches fruticosa	Weeping Beachsea			
syz ole	Syzygium oleosum	Blue Lillipilli			
cal pac	Callistemon pachyphyllus	Wollum bottlebrush			

GROUNDCOVERS - module 3 only

CODE	PLANT SPECIES	COMMON NAME	NO PER MODULE	SIZE	QTY
aus dut	Austromyrtus dulcis	Midyim	50 Minimum 3 species selected per module	75MM TUBE	To be determined on site by bush regeneration expert
blechnum	Blechnum indicum	Bungwall Fern			
cen asi	Centella asiatica	Pennywort			
cyp pol	Cyperus polystachyos	Flat Sedge			
dia cae	Dianella caerulea	Blue Flax Lilly			
gah asp	Gahnia aspera	Saw Sedge			
hib sca	Hibbertia scandens	Snake Vine			
har vib	Hardenbergia violacea	Native sarsaparilla			
lom lon	Lomandra longifolia	Matrush			
lom hys	Lomandra hystrix	Creek Matrush			
pte esc	Pteridium esculentum	Bracken Fern			
sch val	Schoenoplectus validus	Clubrush			
xyr com	Xyris complanata	Yellow-eyed Grass			

Rehabilitation Zone 4 Schedule

Stage	Year 1	Year 2	Year 3	Year 4	Year 5
Stage 1 Total Area: 4.38Ha	**PLANTING MODULE 1** PIONEER SPECIES PLANTING Trees and Small Trees' selected from Rehabilitation Areas 4 specimens per sheet. Exact numbers to achieve densities as stated dependant on natural regeneration (determined onsite by regeneration expert)	**PLANTING MODULE 2** SUPPLEMENTARY SPECIES PLANTING Supplementary planting to increase diversity. Pioneer species - Trees' and 'Small Trees' selected from Rehabilitation Area 4 species list this sheet.	**PLANTING MODULE 3** SUPPLEMENTARY SPECIES PLANTING TO INCLUDE GROUNDCOVERS Supplementary planting to increase diversity. 'Trees' and 'Small Trees' selected from Rehabilitation Area 4 species list this sheet. Introduction of Groundcover species, dependant on natural regeneration.	Natural Regeneration Weed Management monitoring and maintenance as per VMP - prepared by Planit	Natural Regeneration Weed Management monitoring and maintenance as per VMP - prepared by Planit
	Ongoing monitoring and maintenance as per VMP				

PROJECT:	
REHABILITATION PLAN	
DRAWING TITLE:	
ZONE 4	

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECKED
01	LANDSCAPE OPW FOR INFORMATION	18.04.18	AH	AH	JA
02	LANDSCAPE OPW FOR INFORMATION	16.06.20	AH	AH	LT
03	FOR APPROVAL	06.07.21	AH	AH	LT
04	FOR APPROVAL	19.07.21	AH	AH	LT

JOB NO: J7148 DWG NO: J7148_504
SCALE 1:1000 @ A1 1:2000 @ A3
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WEST BYRON - Rehabilitation Plan (ZONE 5)



Legend

- LANDSCAPE REHABILITATION AREAS. Refer to fauna neutral plant list and typical planting modules on this sheet.
- EXISTING VEGETATION COMMUNITY TO BE RETAINED. Refer to Vegetation Management Plan prepared by Planit Consulting for further information.
- REHAB 1.0 — BOUNDARY PEGS. Boundary of rehabilitation areas to be pegged out by surveyor prior to commencement of works. Pegs to be star pickets / galv pipe to minimum 1 meter above ground painted yellow with notation to match as noted on these plans. Existing vegetation line to form all other boundaries as indicated this sheet.
- TURF TYPE 1. Refer to specification
- MULCH ONLY (TO FUTURE RECREATION AND OPEN SPACE GARDENS). Refer to specification

High amount Regen

Weed Control - to all areas



Location Plan — NTS

Landscape Buffer Rehabilitation Zone 5

Scale: 1:1000 at full size A1

Total Area: 0.89Ha

Vegetation Type: Swamp Sclerophyll.

Note: Refer to detailed planting setout (Sheet 506 - 508) for detailed planting works.

Planting areas to exclude proposed pathways and recreation / open space areas. Planting areas affected by future earthworks are to be temporarily turfed, refer to Sheet 507 - 509.

FAUNA NEUTRAL PLANT LIST

ADVANCED TREE STOCK

Refer to Planting Module 1 for layout

CODE	PLANT SPECIES	COMMON NAME	SIZE	HEIGHT	CLEAR TRUNK	SPREAD	SPACING	QUANTITY (STAGE 1 REHABILITATION WORKS)
LIV aus	Livistona australis	Cabbage Tree Palm	5kg	NA	3m	2.5m	As per plan	12
ELA ret	Elaeocarpus reticulatus	Blueberry Ash	100Lt	2.5-3.5m	NA	2m	As per plan	10
MEL qui	Melaleuca quinquenervia	Broad leaf paperbark	100Lt	2.5-3.5m	NA	2m	As per plan	19
LOP sou	Lophostemon suaveolens	Swamp Box	100Lt	2.5-3.5m	NA	2m	As per plan	9
LOP con	Lophostemon confertus	Brush Box	100Lt	2.5-3.5m	NA	2m	As per plan	13

REHABILITATION ZONE 5 (89.6 MODULES)

TREES

Refer to Planting Module 1 and 2 for layout

PLANT SPECIES	COMMON NAME	NO PER MODULE	NO PER MODULE	SIZE	QUANTITY (STAGE 1 REHABILITATION WORKS)	QUANTITY (STAGE 2 REHABILITATION WORKS)
Acacia disparima subsp. 'disparima'	Hickory Wattle	Quantity within first 10m of Ewingsdale Road buffer:	Quantity beyond the first 10m of Ewingsdale Road buffer:	75MM TUBE	281 E	1195
Acacia melanoxylon	Blackwood	20	15			
Elaeocarpus reticulatus	Blueberry Ash					
Melicope elleryana	Pink Dungwood	Minimum 3 species selected per module	Minimum 3 species selected per module			
Lophostemon suaveolens	Swamp Box					
Lophostemon confertus	Brush Box					

SMALL TREES / SHRUBS

Refer to Planting Module 1 and 2 for layout

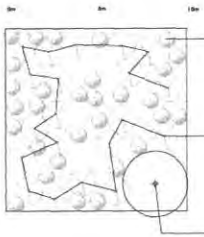
PLANT SPECIES	COMMON NAME	NO PER MODULE	NO PER MODULE	SIZE	QUANTITY (STAGE 1 REHABILITATION WORKS)	QUANTITY (STAGE 2 REHABILITATION WORKS)
Allocasuarina torulosa	Forest Oak	Quantity within first 10m of Ewingsdale Road buffer:	Quantity beyond the first 10m of Ewingsdale Road buffer:	75MM TUBE	39 88	1038
Cordyline stricta	Narrow-leaved palm lily					
Durabaldia myrsinoides	Carinwood					
Hibiscus diversifolius	Swamp hibiscus					
Hovea acutifolia	Hovea					
Leptospermum juniperinum	Prickly Tea-tree					
Leptospermum polygalifolium	Tantoon	30	30			
Leptospermum trinervium	Black Tea-tree	Minimum 3 species selected per module	Minimum 3 species selected per module			
Callistemon pachyphyllus	Wollum bottlebrush					
Trochocarpa laurina	Tree Heath					

GROUNDCOVERS

Refer to Planting Module 3 for layout

PLANT SPECIES	COMMON NAME	NO PER MODULE	NO PER MODULE	SIZE	QUANTITY (STAGE 1 REHABILITATION WORKS)	QUANTITY (STAGE 2 REHABILITATION WORKS)
Blechnum indicum	Bungwall fern	Quantity within first 10m of Ewingsdale Road buffer:	Quantity beyond the first 10m of Ewingsdale Road buffer:	75MM TUBE	1470	1100
Centella asiatica	Pennywort					
Cyperus polystachyos	Bat Sedge					
Dianella caerulea	Blue Flax Lily					
Gahnia aspera	Saw Sedge					
Hibbertia scandens	Snake Vine					
Hardenbergia violacea	Native sarsaparilla	50	50			
Lomandra longifolia	Mat-rush	Minimum 5 single selected per module	Minimum 5 species selected per module			
Lomandra hystrix	Creek Mat-rush					
Pteridium esculentum	Native Fern					
Schoenoplectus validus	Club-rush					
Xyris complanata	Yellow-eyed Grass					

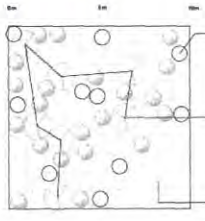
NOTE:
FOREST MULCH TO 50MM DEPTH, COVERING 0.89HA
TOTAL: 4,450M3



- **Small Trees / Shrubs** — 30 plants per module. Min 3 species per module. Note: minimum 20 plants per module beyond first 10m of Ewingsdale Road.
- **Trees** — 20 plants per module. Min 3 species per module. Note: minimum 15 plants per module beyond first 10m of Ewingsdale Road.
- **Advanced trees as shown on sheet 506-508.** **Forest mulch required to entire planting area.**

Planting Module 1 - Swamp Sclerophyll — NTS

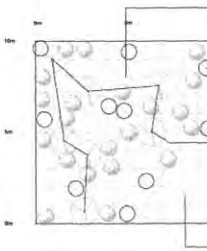
PIONEER SPECIES PLANTING 10 x 10 meter module



- **Small Trees / Shrubs** — Supplementary planting to increase diversity and maintain densities. (exact numbers to be determined onsite by bush regeneration expert)
- **Trees** — Supplementary planting to increase diversity and maintain densities. (exact numbers to be determined onsite by bush regeneration expert)
- **Existing Trees** — Existing trees to remain

Planting Module 2 - Swamp Sclerophyll — NTS

SUPPLEMENTARY SPECIES PLANTING 10 x 10 meter module



- **Groundcovers** — Introduction of Groundcover species. exact numbers dependent on natural regeneration.
- **Small Trees / Shrubs** — Supplementary planting to increase diversity and maintain densities. (exact numbers to be determined onsite by bush regeneration expert)
- **Trees** — Supplementary planting to increase diversity and maintain densities. (exact numbers to be determined onsite by bush regeneration expert)
- **Existing Trees** — Existing trees to remain

Planting Module 3 - Swamp Sclerophyll — NTS

SUPPLEMENTARY SPECIES PLANTING TO INCLUDE GROUNDCOVERS 10 x 10 meter module

Rehabilitation Zone 5 Schedule

Stage	Year 1	Year 2	Year 3	Year 4	Year 5
Stage 1 Total Area: 0.89Ha	PLANTING MODULE 1 PIONEER SPECIES PLANTING With 'Tree' and 'Small Tree' selection from Rehabilitation Area 5 specified this level. Exact numbers to achieve densities as stated dependent on natural regeneration (determined onsite by bush regeneration expert)	PLANTING MODULE 2 SUPPLEMENTARY SPECIES PLANTING Supplementary planting to increase diversity. Pioneer species - 'Tree' and 'Small Tree' selection from Rehabilitation Area 5 specific to this level.	PLANTING MODULE 3 SUPPLEMENTARY SPECIES PLANTING TO INCLUDE GROUNDCOVERS Supplementary planting to increase diversity. 'Tree' and 'Small Tree' selected from Rehabilitation Area 5 specific to this level. Introduction of Groundcover species, dependent on natural regeneration.	Natural Regeneration Weed Management Weeding and maintenance as per WMP - prepared by Planit	Natural Regeneration Weed Management Weeding and maintenance as per WMP - prepared by Planit

PROJECT: REHABILITATION PLAN

DRAWING TITLE: ZONE 5

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECKED
07	REVISED COUNCIL APPROVAL	08.02.22	LE	AH	LT

JOB NO: J7148 | DWG NO: J7148_505

SCALE 1:1000 @ A1 1:2000 @ A3

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Appendix 2 – March 2025 and August / September 2025 Rehabilitation Plot Monitoring Results

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N/A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

No.

What species?

N/A

What management was undertaken to eradicate these weeds?

N/A

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 6-10m
- Shrub species: 1.5-4m
- ground covers: <1.5m

Area already well established.

What are the dominant species within each layer?

- Tree: Melaleuca quinquernervia
- Shrub: Acacia melanoxylon
- ground covers: Blechnum indicum

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Reptiles (i.e. Skinks)

Large nectar feeding birds (i.e. friarbirds, honeyeaters etc.)

Small tree and ground birds (i.e. finches, fairy wrens, grassbird)

Amphibians (i.e. wallum froglet, eastern sedgefrog)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

Minor trampling noted throughout the plot, likely from previous frog surveys.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

N/A.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

PROJECT DESCRIPTION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 146. Paperbark/Heath Swamp Forest.@ 556849, 6831798		**Monitoring Site ID:** P1
Type of on-grounds: approved for assisted natural regeneration to maintain Paperbark/Heath Swamp Forest	**Years since site commenced:** 2.5	**When was this site last assessed?** 02-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28-02-25	
Overall comments on site condition: Closed Sedgeland/Fernland/ Rushland with scattered Paperbark Low Woodland. Excellent condition.		
Has the condition of the site changed since last assessment? No.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	100	Native swamp in excellent condition. Currently fenced off from surrounding pasture	20-30% Summed for plot but only in NE, NW and SW corner	Dense native species	N/A	No change.		Assisted rehabilitation (weed management) is approved for this zone. Maintain exclusion from surrounding paddocks.
B = Uncertain significant problems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A (describe)
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A (describe)
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								100 %

LOCATION

Site No.	P1							**Date:**	28-02-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 146. Paperbark/Heath Swamp Forest. Rehabilitation Zone 6										
GPS coordinates centre plot/meander:	**Zone**	5	6	**E**	Centred @ 556849		**N**	Centred @ 6831798	**Datum:**	MGA94256	

VEGETATION STRUCTURE

Stratum	Est. Median Height (m)	Est. cover density (D,M,S,V)
E	-	-
T1	5-9	S-V
T2	3-5	S-V
S1	1.5-3	S-V
G	0-2	D

Structural formation: (including height)	Closed Sedgeland/Fernland/ Rushland with scattered Paperbark Low Woodland
Ecologically dominant layer:	G

Small clusters at northern and southern ends of plot

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
T1	D	*Melaleuca quinquenervia*
T1	S	*Glochidion ferdinandi*
T2		*Melaleuca quinquenervia*
T2		*Melicope elleryana*
S		*Elaeocarpus reticulatus*
S		*Oxylobium robustum*
S		*Leptospermum juniperinum*
S		*Banksia oblongifolia*
S		*Acacia melanoxylon*
S		*Austromyrtus dulcis*
S		*Homalanthus populifolius*

Str.	Scientific Name
G	*Blechnum indicum*
G	*Gahnia clarkei*
G	*Pteridium esculentum*
G	*Hibbertia scandens*
G	*Gleichenia dicarpa*
G	*Entolasia stricta*
G	*Imperata cylindrica*
G	*Paspalidium distans*
G	*Baloskion tetraphyllum*
G	*Pomax umbellata*
G	*Lygodium microphyllum*
G	*Selaginella uliginosa*
G	*Sphagnum cuspidatum*
G	*Baumea rubiginosa*
G	*Parsonsia straminea*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	The overall 0.65ha vegetation zone is comprised of an open canopy layer of Melaleuca quinquenervia and a sparse midstorey/shrub layer including species such as Gahnia clarkei, Elaeocarpus reticulatus, Leptospermum juniperinum, Oxylobium robustum and Acacia ulicifolia. The ground layer was relatively dense and included a 0.06 ha area of ephemeral sedge swamp dominated by Baumea rubiginosa, with occasional Blechnum indicum and patches of Baloskion tetraphyllum. Outside of the sedge swamp, the balance of the vegetation zone comprised dense understorey vegetation dominated by Baloskion tetraphyllum, with Hibbertia scandens and Parsonsia straminea in areas and various ferns throughout (e.g. Blechnum indicum, Pteridium esculentum, Gleichenia dicarpa, Lygodium microphyllum). Grasses were present throughout the site, and included native species such as Entolasia stricta, Imperata cylindrica and Paspalidium distans. Forbs included Pomax 1mbellate and Selaginella uliginosa. Weed free within the 1000m² plot and currently fenced. Recorded Wallum Froglet and Wallum Sedge Frog habitat. Dry underfoot at the time of survey. Treated camphor laurel trees are dead and starting to break apart. Some minor tramping of ferns in areas, likely from previous frog surveys and/or landscape contractor conducting routine inspection.

Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6. Existing Sedgeland/Fernland/Rushland Swamp to be managed by assisted natural regeneration.



Centreline @ om



Centreline @ 50m



NE corner @ om



NE corner @ om



NW corner @ om



NW corner @ om



Centreline South @ 25m



Centreline North @ 25m



Centre west @ 25m



Centre east @ 25m



SW Corner @ 50m



SW Corner @ 50m



SE Corner @ 50m



SE Corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Previously treated Camphor Laurel trees breaking apart

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses present with Columbian Waxweed also common.

What species?

Andropogon virginicus, Paspalum, Axonopus spp. and Columbian Waxweed.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: N/A
- Shrub species: 1-2m
- ground covers: <1.4m

What are the dominant species within each layer?

- Tree: N/A
- Shrub: Melaleuca quinquenervia
- ground covers: Philydrum lanuginosum and Baumea

Have you noticed any new native plant species since the last inspection?

Yes.

If yes name the species or take a photograph

Pomax umbellata

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches and wrens)

Raptor (i.e. White-bellied Sea-eagle above)

Amphibians (i.e. Striped Marsh Frog)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Vegetation protection fencing has since been installed at the rehabilitation zone interface since last inspection. Minor section of fencing down, requiring repair.

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 2 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 2 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Weed removal to be undertaken to treat exotic grasses. Refit several tree guards which have shown evidence of grazing. Monitor grasshopper infestation. Protection fencing to be repaired.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147 @ 557080, 6831531		**Monitoring Site ID:** P2
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat	**Years since site commenced:** 2.5	**When was this site last assessed?** 02-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28.02.25	
Overall comments on site condition: Good conversion from grazed pasture to Freshwater Wetland since baseline survey. Exotic grasses coverage has decreased since last inspection with native wetland groundcover species overtaking. Plantings and wetland species increasing in height and coverage. Wet.		
Has the condition of the site changed since last assessment? YES. Increase in wetland/plantings height and coverage. Pasture grass less prominent with native wetland species taking over. Protection fencing installed.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	75	Freshwater wetland flora establishing.	0 Juvenile phase	Dense establishing native flora species.	Nil	Sporadic melaleuca quinequenrvia + planted species.		Routine weed control.
B = Uncertain significant problems	25	Freshwater wetland flora establishing 25% estimate of area is estimated to have exotic grasses.	0 Juvenile phase	Mid – dense of pasture grasses	Pasture grasses Columbian waxweed	Sporadic melaleuca quinequenrvia + planted species.		Routine weed control.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								87.5%

LOCATION

Site No.	P2							**Date:**	28-02-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147 Rehabilitation Zone 2										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557080		**N**	6831531	**Datum:**	MGA94z56	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	-	-
T2	-	-
S1	0.25-1.6	V
G	0.1-0.1.2	D

Structural formation: (including height)	rushland/ sedgeland/ wetland
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		-
S		*Melaleuca quinquenervia*
S		*Callistemon salignus*
S		*Lophostemon suaveolens*
S		*Eucalyptus robusta*
G		*Pomax umbellata*

Str.	Scientific Name
G	Pasture Grasses
G	*Baloskion tetraphylla*
G	*Eleocharis dulcis*
G	*Blechnum indicum*
G	*Juncus usitatus*
G	*Cyperus* spp.
G	*Persicaria decipiens, P. strigosa*
G	*Imperata cylindrica*
G	*Philydrum lanuginosum*
G	*Liparophyllum exaltatum*
G	*Baumea spp*
G	*Cuphea carthagenensis**
G	*Centella asiatica*
G	*Hemarthria uncinata*
G	*Fimbristylis dichotoma*
G	*Drosera spatulata*
G	*Selaginella uliginosa*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Previously established Pasture Grassland managed and transforming to wetland vegetation under natural regeneration efforts with supplementary plantings. Exotic grasses present although not as dominant as last inspection. Wet at time of inspection. Noticeably greener compared to last inspection, likely due to recent wet and warm months Minor grasshopper infestation present. Tree protection guards installed on several plantings, although some require repairing/re-fitting. Protection fencing installed at the interface between slashing area and rehab zone.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 2: Freshwater Wetland



Centreline @ om



Centreline @ 50m



NW corner @ om



NW corner @ om



SW corner @ om



SW corner @ om



Centre South @ 25m



Centre North @ 25m



Centre East @ 25m



Centre West @ 25m



SE corner @ 50m



SE corner @ 50m



NE corner @ 50m



NE corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Noticeable increase in native wetland coverage



Protection Fencing along Rehabilitation Zone Interface



Minor Patches of Pasture Grass

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

Some leftover plastic tube stock containers and plantings labels observed.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Pasture grasses, Columbian waxweed and Nymphaea spp.

What species?

Andropogon virginicus, Axonopus, Paspalum, *Nymphaea spp.* and Columbian waxweed

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 4-6m
- Shrub species: <1.2m
- ground covers: <1.6m

What are the dominant species within each layer?

- Tree: Elaeocarpus reticulatis
- Shrub: Melaleuca quinquenervia
- ground covers: Baumea spp / Leipronia acticulata

Have you noticed any new native plant species since the last inspection?

Yes

If yes name the species or take a photograph

Hemarthria uncinata, Fimbristylis dichotoma and Centella asiatica

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches and wrens)

Nectivore birds (i.e. honeyeaters)

Waterfowls (i.e. pacific black ducks)

Amphibians (i.e. striped marsh frog, Eastern Sedgefrog, wallum froglet)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Fencing at the interface between the development footprint and rehabilitation zone 2 has been installed since the last inspection.

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 2 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 3 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Frog ponds have been constructed and planted out and establishing nicely. Water depth varies between ~0-0.75m. Weed control to treat pasture grass required within areas external to the frog ponds and infill with plantings once treated to increase coverage. Remove rubbish. Several tree guards require repairing. Some Nymphaea spp. noted within frog pond.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147 @ 557262, 6831473		**Monitoring Site ID:** P3
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat / frog ponds	**Years since site commenced:** 2.5	**When was this site last assessed?** 04-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28-02-25	
Overall comments on site condition: Pasture Grassland with regenerating wetland flora. Frog ponds created and planted out. So far, it's looking good (i.e. no obvious dead plantings and increasing in height and coverage).		
Has the condition of the site changed since last assessment? YES. Frog pond plantings increasing in height and coverage. Wetland species increasing in coverage externally to frog ponds. Some *Nymphaea spp.* Noted within frog pond.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	80	Frog ponds created and planted out with aquatic/wetland species. External to the frog ponds, freshwater wetland flora establishing amongst the pasture grassland.	0 Juvenile stage.	Mid-dense establishing native flora species.	Pasture grasses	Persoonia stradbrokensis, Melaleuca quinquenervia + planted aquatic/wetland species within the frog ponds.		Ongoing routine management of pasture grasses. Recent supplementary plantings noted within areas external to frog ponds. Keeping monitoring frog pond plantings.
B = Uncertain significant problems	20	Pasture grasses present within areas external to the frog ponds. Weed control required. Some rubbish was observed. Several tree guards down.	0	Dense	Pasture grasses	Performance criteria for weeds not achieved in some areas.		Ongoing routine management of pasture grasses required. Remove rubbish. Refit/repair tree guards.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								90 %

LOCATION

Site No.	P3	**Date:**	28-02-25
Purpose	VEGETATION/REHABILITATION MONITORING 40m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. In the southeast. Rehabilitation Zone 2. Frog pond.		

GPS coordinates centre plot:	**Zone**	5	6	**E**	557262	**N**	6831473	**Datum:**	MGA94256

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)	
E	-	-	
T1	-	-	
T2	4-8	V	Established trees along northern banks of pond.
S1	0.25-1.2	V	Several paperbark stems.
G	0.1-1.2	D	Frog pond plantings, regenerating wetland species and pasture grass

Structural formation: (including height)	Closed Grassland
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		*Acacia sophorae*
T2		*Elaeocarpus reticulatus*
S		*Melaleuca quinquenervia*
S		
S		
G		*Eleocharis dulcis*
G		*Drosera spatulata*
G		*Calochlaena dubia*
G		*Hemarthria uncinata*
G		*Fimbristylis dichotoma*

Str.	Scientific Name
G	Pasture Grasses along banks*
G	*Baloskion tetraphylla*
G	*Blechnum indicum*
G	*Juncus usitatus*
G	*Cyperus* spp.
G	*Philydrum lanuginosum*
G	*Lygodium microphyllum*
G	*Baumea juncea*
G	*Baumea rubiginosa*
G	*Baumea articulata*
G	*Schoenoplectus validus*
G	*Leipronia articulata*
G	*Cuphea* *
G	*Centella asiatica*
G	*Nymphaea spp.*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Frog ponds have been constructed and planted. Plantings establishing nicely. Water depth varies ~0-0.75m in depth. The previous monitoring plot of P3 has been relocated further to the west and is 40m x 20m in size. Given the depth of water within the frog pond and the soft nature of the sandy soil, no groundcover photos or centre photos were undertaken. This may change in the future once the plantings have become more established and the soft soil stabilises. Visually obvious that the coverage and height of the plantings are increasing. Some Nymphaea noted within frog pond. External to the frog ponds previous plantings and treatments of pasture grasses have occurred, although the pasture grasses are still presnet. Some minor rubbish noted (i.e. empty tubestock containers, pliers and plant labels). Several tree guards requiring re-fitting/replacing. Protection fencing installed at the interface between the approved development footprint and rehabilitation zone.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 2: Freshwater Wetland & Constructed Frog Pond



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



SW corner @ om



SW corner @ om



NW corner @ 50m



NW corner @ 50m



NE corner @ 50m



NE corner @ 50m



Tree Guard Requiring Re-fitting and Pasture Grass Requiring Treatment



Fencing and signage at rehabilitation zone interface

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses re-establishing (predominantly within the eastern sections) and some Columbian Waxweed.

What species?

Andropogon virginicus, Setaria sphacelata, Paspalum, Axonopus and Cuphea.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 1-4m (planted Eucalypts)
- Shrub species: 0.5-2.5m (Leptospermums)
- ground covers: 0.2-1.5m

What are the dominant species within each layer?

- Tree: Eucalyptus spp.
- Shrub: Leptospermum spp.
- ground covers: Pasture grasses +/- Bracken and Bunchy Sedge

Have you noticed any new native plant species since the last inspection?

Yes.

If yes name the species or take a photograph

Drosera spatulata

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, wagtail, grassbird and wrens)

Reptiles (i.e. skinks and common tree snake)

Mammals (i.e. swamp wallaby)

Amphibians (i.e. striped marsh frog)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 3 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 3 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Weed removal to be undertaken to control pasture grass. Supplementary plantings to be undertaken post pasture grass treatment to increase coverage in bare/grassy areas.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 148. In the north @ 557480, 6831293		**Monitoring Site ID:** P4
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat	**Years since site commenced:** 2.5	**When was this site last assessed?** 04-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28-02-25	
Overall comments on site condition: Pasture grassland re-establishing/dominant in some eastern parts. Zone revegetated with freshwater wetland module. Plantings going well with a noticeable increase in height and coverage. Supplementary plantings required in areas currently suppressed by pasture grass (following treatment).		
Has the condition of the site changed since last assessment? YES. Noticeable increase in plant heights/coverage.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	70	Revegetation zone with some natural recruitment. Substantial replacement of previous pasture.	0 Juvenile phase	Planted species, mostly rushes and sedge with eucalypts/paperbarks also present.	Pasture grass	Several species mostly planted with some regeneration (refer preceding page). Increasing in height and coverage. Some loss of planted trees including 'topped' specimens from wallaby graze.		Ongoing routine management of pasture grasses. Supplementary plantings required for pasture grass areas post treatment.
B = Uncertain significant problems	30	Nominal 30% representing pasture grasses re=establishing.	0 Juvenile phase	Planted species, mostly rushes and sedge with eucalypts/paperbarks also present.	Pasture grass Columbian Waxweed	Several species mostly planted with some regeneration (refer preceding page) Performance criteria for weeds and coverage not achieved.		Ongoing routine management of pasture grasses. Weed control required for pasture grasses. Supplementary plantings required pasture grass dominant areas post treatment.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								85 %

LOCATION

Site No.	P4							**Date:**	28-02-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 148. In the north. Rehabilitation Zone 3										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557480		**N**	6831293	**Datum:**	MGA94z56	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)	
E	-	-	
T1	-	-	
T2	1-3	S	Planted Eucalypts
S1	0.25-2	S	Mostly planted natives
G	0.1-1.5	S	Planted and recruited natives
G	0.05-1.2	S-M	Pasture grass and planted wetland natives

Structural formation: (including height)	Open Rush/Sedgeland revegetation zone over low controlled pasture grass
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		*Eucalyptus robusta*
S		*Persoonia stradbrokensis*
S		*Acacia melanoxylon*
S		*Acacia sophorae*
S		*Leptospermum spp.*
S		*Melaleuca quinquenervia*
S		*Oxylobium robustum*
S		*Bansia robur*
S		*Eucalyptus tereticornis*
S		*Callistemon salignus*
S		*Leptospermum polygalifolium*
S		*Lophostemon suaveolens*
S		*Eucalyptus robusta*
S		*Melastoma affine*
S		*Callistemon salignus*
S		*Casuarina glauca*

Str.	Scientific Name
G	Pasture Grasses
G	*Baloskion tetraphylla*
G	*Centella asiatica*
G	*Cyperus spp.*
G	*Pteridium esculentum*
G	*Ischaemum australe*
G	*Baumea juncea/rubiginsoa*
G	*Juncus usitatus*
G	*Carex appressa*
G	*Liparophyllum exaltatum*
G	*Histiopteris incisa*
G	*Lobelia stenophylla*
G	*Gahnia spp.*
G	*Hardenbergia violacea*
G	*Cuphea carthagenensis**
G	*Calochlaena dubia*
G	*Elaeocharis dulcis*
G	*Fimbristylis dichotoma*
G	*Goodenia rotundifolia*
G	*Drosera spatulata*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Previous tall, closed grassland now managed as a revegetation zone. Planted native species and retained regenerating species established and increasing in heigh and coverage. Pasture grasses are present throughout the area, in particularly within the eastern portions and require treatment. Noticeable increase in height and coverage of native vegetation since previous inspection, in particularly the Leptospermums and Bunchy Sedges.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 3: Freshwater Wetland



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



NE corner @ om



NE corner @ om



Centre west @ 25m



Centre east @ 25m



Centre south @ 25m



Centre north @ 25m



SW corner @ 50m



SW corner @ 50m



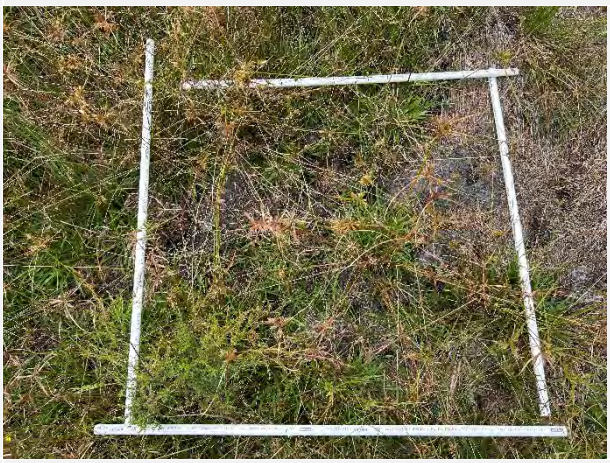
NW corner @ 50m



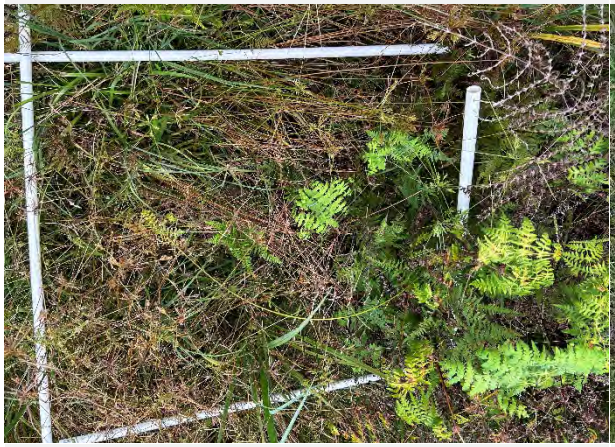
NW corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Pasture grass requiring treatment

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses established within areas externally to frog ponds.

What species?

Andropogon virginicus, Axonopus spp, Setaria sphacelata and Paspalum.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: N/A
- Shrub species: 0.25-2.2m
- ground covers: <1.75m

What are the dominant species within each layer?

- Tree: N/A
- Shrub: Melaleuca quinquenervia
- ground covers: Pasture Grass / Cyperus spp. (Leipronia articulata within frog ponds)

Have you noticed any new native plant species since the last inspection?

Yes.

If yes name the species or take a photograph

Drosera spatulata

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches)

Amphibians (i.e. striped marsh frog and eastern sedge frog)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

N/A

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? Yes.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 3 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 3 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Frog ponds have been constructed with plantings establishing nicely. Water depth varies between 0-0.5m. Weed control to treat pasture grass required within areas external to the frog ponds and infill with plantings once treated to increase coverage, in particularly tree/shrub species. Remove minor rubbish.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 148. Centre. @ 557425, 557425		**Monitoring Site ID:** P5
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat. Frog pond.	**Years since site commenced:** 2.5	**When was this site last assessed?** 04-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28-02-25	
Overall comments on site condition: Pasture Grassland with regenerating wetland flora. Frog ponds created with plantings establishing nicely. So far, it's looking good (i.e. no obvious dead plantings). Paperbarks regenerating although pasture grass dominates areas south of the frog pond. Treatment of pasture grasses required with supplementary plantings to follow to increase native shrub/tree coverage.		
Has the condition of the site changed since last assessment? YES. Frog ponds have been constructed and planted out with aquatic/wetlands species and establishing nicely. External to the frog ponds, pasture grass is dominant. Paperbark saplings increasing in height and coverage although more shrub/tree species required (supplementary plantings).		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	50	Frog ponds created and planted out with aquatic/wetland species. External to the frog ponds, freshwater wetland flora establishing amongst the pasture grassland.	0 Juvenile phase	Mid-dense establishing native flora species.	Pasture grasses	Performance criteria for coverage not achieved.		Ongoing routine management of pasture grasses. Paperbark saplings increasing in height and coverage.
B = Uncertain significant problems	50	Pasture grasses have re-established within areas external to the frog ponds. Weed control required. Some rubbish was observed.	0 Juvenile phase	Dense non-native	Pasture grasses	Performance criteria for weeds and coverage not achieved.		Ongoing routine management of pasture grasses required. Remove rubbish. Following pasture grass treatment, Infill plantings required to achieve coverage criteria.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								75 %

LOCATION

Site No.	P5	**Date:**	28-02-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 148. Centre. Rehabilitation Zone 3. Frog Pond.		

GPS coordinates centre plot:	**Zone**	5	6	**E**	557425	**N**	557425	**Datum:**	MGA94256

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	-	-
T2	-	-
S1	0.25-2.2	V-S
G	0.1-1.75	D

Structural formation: (including height)	Closed Grassland with regenerating rushland/ sedgeland/ wetland flora in the south
Ecologically dominant layer:	G

Primarily Regenerating Paperbarks

Predominantly planted wetland/frog pond species and Pasture Grass

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		-
S		*Melaleuca quinquenervia*
S		*Persoonia stradbrokensis*
S		*Acacia melanoxylon*
S		*Acacia sophorae*
S		*Eucalyptus tereticornis*

Str.	Scientific Name
G	Pasture Grasses *
G	*Baloskion tetraphylla*
G	*Eleocharis dulcis*
G	*Juncus usitatus*
G	*Cyperus spp.*
G	*Lygodium microphyllum*
G	*Fimbristylis ferruginea*
G	*Liparophyllum exaltatum*
G	*Centella asiatica*
G	*Baumea juncea, B. rubiginosa, B. articulata*
G	*Xyris complanata*
G	*Ischaemum australe*
G	*Philydrum lanuginosum*
G	*Schoenoplectus validus*
G	*Leipronia articulata*
G	*Viola hederacea*
G	*Cuphea carthagenensis**
G	*Drosera spatulata*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Frog pond plantings establishing nicely. Water depth varies ~0-0.5m in depth. External to the frog ponds previous plantings/natural regeneration have occurred, although pasture grass is dominant. Some minor rubbish noted (i.e. empty tubestock containers and plant labels). Treatment of pasture grass is required with supplementary plantings to follow within areas north of the frog ponds. Increase in plantings/natural regeneration height noted, in particularly paperbarks.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 3: Freshwater Wetland.



Centreline @ om



Centreline @ 50m



NW corner @ om



NW corner @ om



NE corner @ om



NE corner @ om



Centreline North @ 25m



Centreline South @ 25m



Centre west @ 25m



Centre east @ 25m



SW corner @ 50m



SW corner @ 50m



SE corner @ 50m



SE corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Plantings Establishing Nicely within Frog Pond

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses established.

What species?

Andropogon virginicus, Axonopus and Paspalum.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: N/A
- Shrub species: 0.25-2.75m
- ground covers: <1.5m

What are the dominant species within each layer?

- Tree: N/A
- Shrub: Melaleuca quinquenervia
- ground covers: Baumea spp. +/- Cyperus spp and Pasture Grass (Lepironia articulata associated with frog ponds)

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A.

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, grassbird and wrens)

Amphibians (i.e. eastern sedgefrog)

Mammals (i.e. swamp wallaby)

Omnivore bird (i.e. Crow)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

N/A.

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 3 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 3 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Generally in good condition and regenerating nicely, although exotic grass still prominent, in particularly within the northern areas which are drier. Pasture grass requiring treatment with potential infill plantings.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 148. Southeast. @ 557494, 6831176		**Monitoring Site ID:** P6
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat. Frog pond.	**Years since site commenced:** 2.5	**When was this site last assessed?** 04-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28-02-25	
Overall comments on site condition: Pasture Grassland with regenerating wetland flora. Frog ponds created and planted out. So far, it's looking good (i.e. no obvious dead plantings and increasing in heigh/coverage). Paperbarks regenerating nicely although pasture grass is prominent in sections. Wet under feet. Pasture grass requiring treatment in areas.		
Has the condition of the site changed since last assessment? YES Frog pond plantings increasing in height and coverage. Melaleuca quinquenervia juveniles very common and increasing in height and coverage.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	90	Freshwater wetland flora establishing amongst the pasture grassland supplemented by native plantings. Frog ponds created and planted out with aquatic/wetland species.	0	Mid-dense to dense establishing native flora species.	Pasture grasses	Excellent regeneration of paperbark. Native species height and coverage increasing and achieving performance criteria.		Ongoing routine management of pasture grasses. Paperbark saplings increasing in height and coverage. Monitor frog pond planting success.
B = Uncertain significant problems	10	10% estimate of pasture grasses which requires treatment.	0	Dense non-native	Pasture grasses	Pasture grass prominent in areas. Performance criteria for weeds not achieved.		Ongoing routine management of pasture grasses. Infill plantings required within treated pasture grass areas. .
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								95 %

LOCATION

Site No.	P6	**Date:**	28-02-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 148. Southeast. Rehabilitation Zone 3. Frog Pond		

GPS coordinates centre plot:	**Zone**	5	6	**E**	557494	**N**	6831176	**Datum:**	MGA94256

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	-	-
T2	-	-
S1	0.25-2.75	S-M
G	0.1-1.5	D

Structural formation: (including height)	Closed Freshwater Wetland/Rushland/Sedgeland with Pasture Grassland Associated
Ecologically dominant layer:	G

Predominantly regenerating Paperbarks

Frog pond plantings and regenerating wetland species and pasture grass.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		-
S		*Melaleuca quinquenervia*
S		*Breynia oblongifolia*
S		*Acacia sophorae*

Str.	Scientific Name
G	Pasture Grasses
G	*Baloskion tetraphylla*
G	*Eleocharis dulcis*
G	*Juncus usitatus*
G	*Cyperus* spp. x 2
G	*Lygodium microphyllum*
G	*Fimbristylis ferruginea*
G	*Liparophyllum exaltatum*
G	*Centella asiatica*
G	*Baumea juncea, B. rubiginosa, B. articulata*
G	*Blechnum indicum*
G	*Gahnia clarkei*
G	*Lepironia articulata*
G	*Philydrum lanuginosum*
G	*Schoenus brevifolius*
G	*Centella asiatica*
G	*Phragmite australis*
G	*Xyris complanata*
G	*Lobelia stenophylla*
G	*Schoenoplectus Validus*
G	*Selaginella uliginosa*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Regenerating freshwater wetland with pasture grasses present. Excellent regeneration of paperbark saplings and aquatic flora from baseline. Increase in plantings/natural regeneration height and coverage. Pasture grass requires control, in particularly in the northern areas external to the frog ponds which are a bit drier. Wet under feet. Frog pond plantings are establishing nicely. Water depth varies ~0-0.5m in depth.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 3: Freshwater Wetland. Constructed Frog Pond.



Centreline @ om



Centreline @ 50m



NE corner @ om



NE corner @ om



NW corner @ om



NW corner @ om



Centre west @ 25m



Centre east @ 25m



Centre south @ 25m



Centre north @ 25m



SW corner @ 50m



SW corner @ 50m



SE corner @ 50m



SE corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Rubbish requiring removal

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<table>
<tr>
<td>
<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A
</td>
<td>
<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses re-established.

What species?

Andropogon virginicus, Paspalum spp., Axonopus spp. Groundsel and some Columbian Waxweed.

What management was undertaken to eradicate these weeds?

To be treated.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.
</td>
<td>
<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: Some planted Eucalypts 2-5m in height
- Shrub species: 0.25-2m
- ground covers: 0.1-1m

What are the dominant species within each layer?

- Tree: Eucalyptus spp.

- Shrub: Melaleuca quinquenervia +/- Eucalyptus spp.

- ground covers: Whiskey Grass and Lomandras

Have you noticed any new native plant species since the last inspection?

Pomax umbellata and Imperata cylindrica

If yes name the species or take a photograph

Yes.

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.
</td>
</tr>
<tr>
<td>
<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, grassbird and wrens)

Mammal (i.e. Swamp Wallaby, Bandicoot diggings)

Reptiles (i.e. skinks and red-bellied black snake)
</td>
<td>
<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences
- Good
- Need minor repair
- Poor (need replacement)

N/A
</td>
<td>
Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? Yes.

General Coverage/Success? Yes.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Natural regeneration and plantings establishing nicely, although exotic grass is becoming re-established. Bandicoot diggings and wallaby scats common. Supplementary plantings required to increase coverage once exotic grass is treated.
</td>
</tr>
</table>

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 149. In south of paddock. @ 557990, 6830947		**Monitoring Site ID:** P7
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Swamp Sclerophyll Forest Habitat	**Years since site commenced:** 2.5	**When was this site last assessed?** 04-09-24
Current assessment conducted by: TR	**Date of current assessment:** 03-03-25	
Overall comments on site condition: Previous pasture grassland controlled and revegetated with swamp sclerophyll module, although whiskey grass and carpet grass becoming re-established in areas. Planted species taking off excellently, in particularly the Eucalypts.		
Has the condition of the site changed since last assessment? YES. Plantings establishing nicely and increasing in height and coverage. Pasture grass persisting.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	65	Revegetation zone with natural recruitment. Substantial replacement of previous pasture. Plantings increasing in height and coverage.	0 Juvenile phase	Planted species	Pasture grass	Several species mostly planted with some regeneration (refer preceding page) Native plantings increasing in height and coverage.		Ongoing routine management of pasture grasses. Treatment of pasture grasses required. Supplementary plantings required following treatment of pasture grasses
B = Uncertain significant problems	35	35% representing pasture re-establishing.	0 Juvenile phase	Dense non-native	Pasture grasses	Several species mostly planted with some regeneration (refer preceding page) Performance criteria for weeds and coverage not achieved in some areas (primarily where pasture grass has taken over).		Ongoing routine management of pasture grasses. Treatment of pasture grasses required. Supplementary plantings required following treatment of pasture grasses.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								82.5 %

LOCATION

Site No.	P7	**Date:**	03-03-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 149. In south of paddock. Rehabilitation Zone 4		

GPS coordinates centre plot:	**Zone**	5	6	**E**	557990	**N**	6830947	**Datum:**	MGA94z56

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)	
E	-	-	
T1	-	-	
T2	1.5-5	S	Planted eucalypts
S1	0.25-2	V	Mostly planted natives
G	0.1-1.25	M	Planted and recruited natives
G	0.1-1.25	S-M	Pasture grass and planted natives with some natural recruitment

Structural formation: (including height)	Very Open Shrubland revegetation zone over low controlled pasture grass
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		-
S		Melaleuca quinquenervia
S		Persoonia stradbrokensis
S		Acacia sophorae
S		Lophostemon suaveolens
S		Zieria smithii
S		Lophostemon confertus
S		Eucalyptus tereticornis
S		Bankisa robur
S		Austromyrtus dulcis
S		Leptospermum polygalifolium
S		Callistemon salignus
S		Casuarina glauca
S		Corymbia intermedia
S		Eucalyptus robusta
S		Callistemon pachyphyllus
S		Syzygium oleosum

Str.	Scientific Name
G	Pasture Grasses *
G	Baloskion tetraphylla
G	Blechnum indicum
G	Hibbertia scandens
G	Cyperus spp.
G	Gahnia clarkei
G	Centella asiatica
G	Pteridium esculentum
G	Wahlenbergia gracilis
G	Drosera spatulata
G	Liparophyllum exaltatum
G	Lomandra spp.
G	Histiopteris incisa
G	Fimbristylis ferruginea
G	Xyris complanata
G	Hardenbergia violaceae
G	Viola hederacea
G	Baccharis halimifolia*
G	Cuphea carthagenensis*
G	Pomax umbellata
G	Imperata cylindrica

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes	Previous tall, closed grassland now managed as a revegetation zone. Coverage and height improved from previous inspection with planted native species and retained regenerating species establishing nicely. Pasture grass remains persistent within understory and requires treatement. Nest boxes noted in rehab zone. Bandicoot diggings and wallaby scats common within zone.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 4: Swamp Sclerophyll Forest.



Centreline @ om



Centreline @ 50m



SE corner @ om



SW corner @ om



Centre south @ 25m



Centre north @ 25m



Centre east @ 25m



Centre west @ 25m



NW corner @ 50m



NE corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Patches of Pasture Grass requiring treatment

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<table>
<tr>
<td>
<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A
</td>
<td>
<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses within western areas present although not dominant.

What species?

Andropogon virginicus, Axonopus and Paspalum.

What management was undertaken to eradicate these weeds?

To be treated.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.
</td>
<td>
<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 1-4m
- Shrub species: 0.25-2m
- ground covers: 0.1-1.5m

What are the dominant species within each layer?

- Tree: Eucalyptus robusta

- Shrub: Melaleuca quinquenervia

- ground covers: Baloskion tetraphylla +/- Baumea spp.

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.
</td>
</tr>
<tr>
<td>
<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches and wrens)
</td>
<td>
<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences
- Good
- Need minor repair
- Poor (need replacement)

N/A
</td>
<td>
Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Natural regeneration and plantings establishing nicely, although exotic grass (primarily Whiskey Grass, Carpet Grass and Paspalum) is present and requires treatment within western edges of the plot/zone. Several tree guards requiring re-fitting. Pasture grass smothering several plantings.
</td>
</tr>
</table>

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 149. In east of paddock. @ 558101, 6831072		**Monitoring Site ID:** P8
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Swamp Sclerophyll Forest Habitat	**Years since site commenced:** 2.5	**When was this site last assessed?** 04-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28-02-25	
Overall comments on site condition: Regenerating freshwater wetland with pasture grasses present but not dominant. Wetland species starting to smother the pasture grass. Revegetated swamp sclerophyll module on the fringe with tree species planting throughout.		
Has the condition of the site changed since last assessment? YES. Native shrubs and trees planted and naturally regenerating nicely, increasing in height and density. Pasture grass prominent in the western sections of plot/zone. Native groundcover species (in particularly baloskion) starting to smother/dominate the pasture grasses.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	80	Freshwater wetland flora establishing amongst the previous pasture grassland supplemented by native plantings.	0	Dense establishing native aquatic flora species.	Pasture grasses	Regenerating and supplementary planting performed. Increasing in height and coverage.		Ongoing monitoring of pasture grasses for natural regeneration. May require some treatment in the western sections where whiskey grass is prominent, although it has improved since previous inspection. Monitoring and routine follow up weed control where needed. Monitor mulch around tree bases and top up as needed.
B = Uncertain significant problems	20	20% estimate of pasture grasses or areas not containing regeneration or planted native species.	0	non-native grasses within wetland	Pasture grasses	Regenerating and supplementary planting performed. Performance criteria for weeds not achieved within the western areas of the zone/plot where it's drier.		Ongoing monitoring/treatment of pasture grasses for natural regeneration in drier western areas. Several tree guards require re-fitting. Pasture grasses noted smothering several plantings within the tree guards.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								90 %

LOCATION

Site No.	P8						**Date:**	28-02-25			
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 149. In east of paddock. Rehabilitation Zone 4										
GPS coordinates centre plot:	**Zone**	5	6	**E**	558101		**N**	6831072	**Datum:**	MGA94256	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	-	-
T2	1-4	S
S1	0.25-2	V-S
G	0.1-1.5	D

Structural formation: (including height)	Regenerating rushland/ sedgeland/ wetland flora with previous grassland becoming subdominant
Ecologically dominant layer:	G

Several Eucalypts and Paperbarks

Native flora becoming dominant. Some patches of pasture grasses remain.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		Melaleuca quinquenervia
T2		Eucalyptus robusta
S		Melaleuca quinquenervia
S		Persoonia stradbrokensis
S		Lophostemon suaveolens
S		Casuarina glauca
S		Melastoma affine
S		Oxylobium robustum
S		Banskia integrifolia
S		Leptospermum spp.
S		Banksia robur
S		Eucalyptus robusta
S		Corymbia intermeida
S		Eucalyptus tereticornis

Str.	Scientific Name
G	Pasture Grasses *
G	Baloskion tetraphylla
G	Baumea juncea, rubiginosa
G	Juncus usitatus
G	Cyperus spp.
G	Lepironia articulata
G	Selaginella uliginosa
G	Gonocarpus micranthus
G	Gahnia clarkei
G	Blechnum indicum
G	Drosera spatulata
G	Xyris complanata
G	Wahlenbergia gracilis
G	Lomandra hystrix
G	Dianella caerulea
G	Liparophyllum exaltatum
G	Centella asiatica
G	Viola hederacea
G	Fimbristylis dichotoma
G	Imperata cylindrica

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Previously establish Pasture Grassland well managed and transforming to wetland vegetation under natural regeneration efforts. Dry underfoot at the time of inspection. Generally in good condition and regenerating nicely, although there's some patches of pasture grass present, in particularly along the western edge of the plot which requires treatment. Several plantings/tree guards down and/or smothered by pasture grass.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 4: Swamp Sclerophyll Forest.



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



SW corner @ om



SW corner @ om



Centre east @ 25m



Centre west @ 25m



Centre north @ 25m



Centre south @ 25m



NW corner @ 50m



NW corner @ 50m



NE corner @ 50m



NE corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Planting smothered by pasture grass. Tree guard requires re-fitting

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N/A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses present although not dominant, several stems of Easter Cassia, Groundsel, and Camphor Laurel sapling.

What species?

Andropogon virginicus, Paspalum, Asparagus Fern, Groundsel, Camphor Laurel and Easter Cassia.

What management was undertaken to eradicate these weeds?

To be removed/treated.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 8-12m
- Shrub species: 0.5-4m
- ground covers: <1.5m

What are the dominant species within each layer?

- Tree: Banskia integrifolia
- Shrub: Mixed (i.e. Paperbark, Leptospermum spp, Acacia, Banskia etc.)
- ground covers: Pteridium esculentatum

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, grassbird, and fairy wrens)

Omnivore birds (i.e. spangled drongo, and crow)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters, noisy friarbird, rainbow lorikeets, noisy minor)

Reptiles (i.e. skinks and goanna)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

N/A

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Natural regeneration and plantings establishing nicely, although exotic grass and some Easter Cassia, Groundsel and Camphor Laurel are present and require removal at next weed control round.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 149. In east of paddock within existing Banksia Woodland @ 558050, 6831124		**Monitoring Site ID:** P9
Type of on-grounds: approved for assisted natural regeneration to Coastal Banksia Woodland/ Open Forest Habitat	**Years since site commenced:** 2.5	**When was this site last assessed?** 02-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28-02-25	
Overall comments on site condition: Good beginnings of natural regeneration with a variety of native flora species encountered. Where canopy trees are grouped providing shade a good leaf litter layer is present. Previous pasture largely controlled and now revegetated, although there's still some pasture grass and herbaceous weeds.		
Has the condition of the site changed since last assessment? YES. Native regeneration increasing in density and height. Minor increase in pasture grass and weeds since initial inspection/treatment.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	85	Fragmented Banksia Woodland/ Open Forest on sandy substrate. Good regeneration, particularly where canopy cover exists. Open areas still contain a variety of native forbs/groundcovers. Revegetation zone with some natural recruitment. Substantial replacement of previous pasture.	40-45%	Mid-dense establishing native flora species with revegetation also performed.	Pasture grasses	Native regeneration Increasing in height and coverage.		Ongoing routine management of pasture grasses.
B = Uncertain significant problems	15	Nominal 15% representing pasture grasses re-establishing in patches. Minor herbaceous weed coverage.	0 Juvenile phase	Dense non-native.	Pasture grasses, *Senna pendula* *Cinnamomum camphora* Groundsel Asparagus Fern	Performance criteria for weeds not achieved.		Ongoing routine management of pasture grasses. Spot control of weeds.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								92.5 %

LOCATION

Site No.	P9							**Date:**	28-02-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 149. In east of paddock within existing Banksia Woodland. Rehabilitation Zone 6										
GPS coordinates centre plot:	**Zone**	5	6	**E**	558050		**N**	6831124	**Datum:**	MGA94z56	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	8-12	M
T2	4-8	S-V
S1	0.5-4	S-M
G	0.1-1.2	S-D

Structural formation: (including height)	Coastal Banksia Woodland / Open Forest
Ecologically dominant layer:	T1

Planted natives + existing regeneration post cattle exclusion

Planted natives with natural recruitment. Some exposed sand typical to vegetation type. Weeds/grasses re-establishing slightly.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1	D	*Banksia integrifolia*
T1	A	*Melaleuca quinquenervia*
T2		*Regenerating T1 species*
T2		*Acacia sophorae*
T2		*Persoonia stradbrokensis*
T2		*Glochidion sumatranum*
T2		*Duboisia myoporoides*
S		*Regenerating T1 and T2 species*
S		*Acacia ulicifolia*
S		*Leptospermum juniperinum, L. polygalifolium*
S		*Acrotriche aggregata*
S		*Notelaea longifolia*
S		*Austromyrtus dulcis*
S		*Monotoca elliptica*
S		*Elaeocarpus reticulatus*
S		*Melicope elleryana*
S		*Lophostemon suaveolens*
S		*Senna pendula**
S		*Banksia robor*
S		*Cupaniopsis anacardioides*
S		*Callistemon salignus*
S		*Syzygium oleosum*
S		*Acronychia imperforata*
S		*Eucalyptus robusta*
S		*Macaranga tanarius*

Str.	Scientific Name
G	Pasture Grasses *
G	*Pomax umbellata*
G	*Hibbertia scandens*
G	*Baloskion tetraphylla*
G	*Cyperus spp.*
G	*Dianella caerulea*
G	*Geitonoplesium cymosum*
G	*Gonocarpus micranthus*
G	*Gahnia clarkei*
G	*Lomandra filiformis*
G	*Parsonsia straminae*
G	*Pteridium esculentum*
G	*Hatpins*
G	*Marsdenia rostrata*
G	*Smilax australis*
G	*Goodenia rotundifolia*
G	*Centella asiatica*
G	*Wahlenbergia gracilis*
G	*Drosera spatulata*
G	*Pomax umbellata*
G	*Imperata cylindrica*
G	*Lomandra hystrix*
G	*Stephania japonica*
G	*Entolasia stricta*
G	*Commelina cyanea*
G	*Cinnamomum camphora**
G	*Asparagus aethiopicus **
G	*Baccharis halimifolia **

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Banksia woodland within former grazing paddock on sandy substrate. Good beginnings of natural regeneration with a variety of native flora species encountered and a large number of native saplings observed. Where canopy trees are grouped providing shade a good leaf litter layer is present. Previous pasture largely controlled, and site now revegetated, although there's a minor increase in pasture grass presence since the previous inspection. Several other weeds such as Asparagus Fern, Groundsel and Easter Cassia also noted, although scarce. Increase in density and height of regenerating native flora noticeable since the previous inspection.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6. Coastal Banksia Woodland/Open Forest to be managed by assisted natural regeneration.



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



NE corner @ om



NE corner @ om



Centre east @ 25m



Centre west @ 25m



Centre north @ 25m



Centre south @ 25m



NW corner @ 50m



NW corner @ 50m



SW corner @ 50m



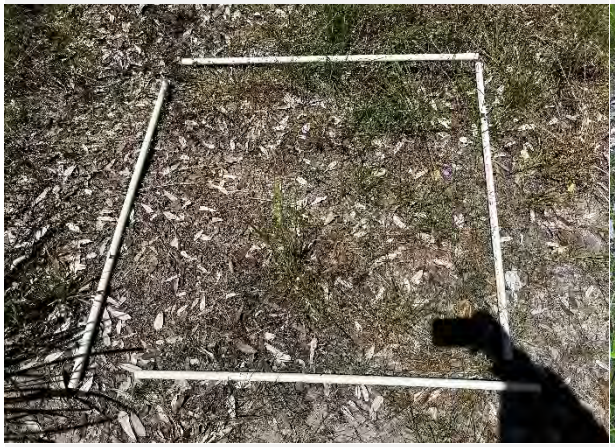
SW corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Easter Cassia sapling

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses dominant in areas.

What species?

Mainly Andropogon virginicus, Axonopus spp. and Paspalum.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 1.5-6
- Shrub species: 0.5-2m
- ground covers: <1m

What are the dominant species within each layer?

- Tree: Eucalyptus spp.
- Shrub: Eucalyptus spp. +/- Melaleuca quinquenervia
- ground covers: Pasture grasses and Bunchy Sedge

Have you noticed any new native plant species since the last inspection?

Viola hederacea and Drosera spatulata

If yes name the species or take a photograph

Yes.

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, wrens, magpie lark)

Mammals (i.e. Swamp Wallaby and bandicoot diggings)

Amphibians (i.e. green tree frog)

Reptiles (i.e. skinks)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 1 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 1 is exempt from the groundcover coverage requirement.

General Coverage/Success? Yes.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Weed removal to be undertaken for pasture grass with in-fill plantings in bare/grass dominant areas.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 146. South of Frog Pond. @ 556907, 6831745		**Monitoring Site ID:** P10
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat	**Years since site commenced:** 2.5	**When was this site last assessed?** 02-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28-02-25	
Overall comments on site condition: Previous pasture grassland revegetated with freshwater wetland module, although there's an increase in exotic grass coverage since previous inspection. Plantings establishing nicely, in particularly Eucalypts.		
Has the condition of the site changed since last assessment? YES. Plantings and natural regeneration establishing and increasing in height, although exotic grasses are dominant throughout the ground layer.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	60	Revegetation zone with some natural recruitment. Substantial replacement of previous pasture.	0 Juvenile phase	Planted species, mostly rushes and sedge.	Pasture grass	Several species mostly planted with some regeneration (refer preceding page) Increasing in height and coverage. Some loss of planted trees including 'topped' specimens from wallaby graze.		Ongoing routine management of pasture grasses. Monitoring and routine follow up weed control where needed. Supplementary/replacement plantings required once grass/weeds are treated. Refit several tree guards which have fallen.
B = Uncertain significant problems	40	Nominal 40% representing pasture grasses re-establishing (dominant). Limited occurrence of waxweed, billygoat weed, thickhead, but monitoring and routine control required due to proficiency to spread within wetlands.	0 Juvenile phase	Planted species, mostly rushes and sedge with minor pasture regeneration and sporadic waxweed, billygoat weed and thickhead.	Pasture grasses, Columbian waxweed, Billygoat weed, Thickhead	Several species mostly planted with some regeneration (refer preceding page) Performance criteria for weeds and coverage not achieved.		Ongoing routine management of pasture grasses. Spot control of waxweed, billygoat weed, thickhead and pasture grasses. Supplementary/replacement plantings required once grass/weeds are controlled. Bunchy Sedge smothering several plantings. Repair/install protection fencing. Repair/refit several tree guards.

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								80 %

LOCATION

Site No.	P10							**Date:**	28-02-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 146. South of Frog Pond. Rehabilitation Zone 1										
GPS coordinates centre plot:	**Zone**	5	6	**E**	556907	**N**	6831745	**Datum:**	MGA94256		

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)	
E	-	-	
T1	-	-	
T2	1-6	S	Planted Eucalypts
S1	0.25-2	V-S	Mostly planted natives
G	0.1-1.2	S	Planted and recruited natives
G	0.05-1	S	Pasture grass and planted wetland natives

Structural formation: (including height)	Closed Pasture Grassland
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		-
S		*Persoonia stradbrokensis*
S		*Callistemon salignus*
S		*Eucalyptus robusta*
S		*Melaleuca quinquenervia*
S		*Casuarina glauca*
S		*Acacia sophorae*
S		*Lophostemon suaveolens*
S		*Eucalyptus tereticornis*
S		*Banksia robur*
G		Viola hederacea
G		Drosera spatulata

Str.	Scientific Name
G	Pasture Grasses
G	*Baloskion tetraphylla*
G	*Centella asiatica*
G	*Cyperus* spp.
G	*Liparophyllum exaltatum*
G	*Blechnum indicum*
G	*Hibbertia scandens*
G	*Fimbristylis ferruginea*
G	*Cuphea carthagenensis**
G	*Juncus usitatus*
G	*Philydrum lanuginosum*
G	*Histiopteris incisa*
G	*Carex appressa*
G	*Baumea juncea/rubiginsoa*
G	*Pteridium esculentum*
G	*Ageratum houstianum**
G	*Leptospermum spp.*
G	*Lobelia stenophylla*
G	*Pultenea villosa*
G	*Xyris complanata*
G	*Fimbristylis polytrichoides*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Previous low to mid-high, closed grassland now managed as a revegetation zone. Planted native species and retained regenerating species becoming established. Exotic grasses re-establishing and dominating the ground layer in areas. Several plants exhibit wallaby grazing. Fencing installed at interface since last inspection. Several tree guards require refitting.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 1: Freshwater Wetland



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



NE corner @ om



NE corner @ om



Centre north @ 25m



Centre south @ 25m



Centre east @ 25m



Centre west @ 25m



SW corner @ 50m



SW corner @ 50m



NW corner @ 50m



NW corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Columbian waxweed requiring treatment



Protection Fencing Installed



Eucalypt plantings increasing in height and coverage

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Minor areas of Paspalum within northern areas of the plot. An Umbrella Tree and Coral Berry sapling also present.

What species?

Paspalum spp. Ardisia crenata and Schefflera actinophylla

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 14-20m
- Shrub species: 0.5-3m
- ground covers: <1.2m

Area already well established.

What are the dominant species within each layer?

- Tree: Lophostemon confertus
- Shrub: Melaleuca quinquenervia
- ground covers: Gahnia clarkei

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N.A.

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. fairy wrens and pardalote)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters, rainbow lorikeet noisy friarbird, whipbird)

Omnivore birds (i.e. kookaburra)

Mammals (i.e. swamp wallaby)

Reptiles (i.e. skinks)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In excellent condition with minor areas of Paspalum present which requires routines weed control. A large Umbrella Tree and Coral Berry sapling also requires treatment during next weed control round.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147. Mapped Brushbox area. @ 557828, 6831140		**Monitoring Site ID:** P11
Type of on-grounds: Approved for assisted natural regeneration	**Years since site commenced:** 2.5	**When was this site last assessed?** 03-09-24
Current assessment conducted by: TR	**Date of current assessment:** 03-03-25	
Overall comments on site condition: Established Brushbox Community. Fenced off and removed from construction zone. In excellent condition with minor weed regenerating (limited to Paspalum, a Umbrella Tree and Coral Berry sapling).		
Has the condition of the site changed since last assessment? YES. Remains in excellent condition although and additional weed noted (coral berry).		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	99	In excellent condition with no weeds.	80	Dense	N/A	N/A	-	Nil. Monitoring only.
B = Uncertain significant problems	1	Weeds previously treated. Minor areas of Paspalum present. One Umbrella Tree and Coral Berry sapling present.	80	Sparse	Paspalum	N/A	-	Routine follow up weed control of Paspalum, Coral berry and Umbrella Tree
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								99.5 %

LOCATION

Site No.	P11							**Date:**	03-03-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. Within mapped Brushbox Foest. Rehabilitation Zone 6										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557828		**N**	6831140	**Datum:**	MGA94z56	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	14-20	D
T2	5-14	V
S1	0.5-3	M-S
G	0.1-1.2	M-D

Structural formation: (including height)	Tall to Very Tall Open Forest
Ecologically dominant layer:	T1

Dense growth of native ferns, sedges, rushes. Thick organic leaf layer and coarse woody debris present.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1	D	*Lophostemon confertus*
T1	A	*Melaleuca quinquenervia*
T1	S	*Lophostemon suaveolens*
T1	S	*Melicope elleryana*
T2		*Elaeocarpus reticulatus*
T2		*Endiandra sieberi*
T2		*Syzygium oleosum*
T2		*Schefflera actinophylla**
T2		*Platycerium superbum*
S1		*Regenerating T1/T2*
S1		*Melastoma affine*
S1		*Leptospermum spp.*
S1		*Austromyrtus dulcis*
S1		*Homalanthus populifolius*
S1		*Banksia integrifolia*

Str.	Scientific Name
G	*Paspalum spp. **
G	*Gahnia clarkei*
G	*Banksia integrifolia*
G	*Blechnum indicum*
G	*Smilax australis*
G	*Selaginella uliginosa*
G	*Pterdium esculentum*
G	*Calochlaena dubia*
G	*Marsdenia rostrata*
G	*Hibbertia scandens*
G	*Lygodium microphyllum*
G	Ardisia crenata*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Brushbox forest. Fenced off from construction zone. In excellent condition with minor areas of Paspalum present. Large Camphor Laurels previously treated and have since died. Umbrella tree requires treating. Coral berry sapling noted.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6: Existing Vegetation



Centreline @ om



Centreline @ 50m



Northeast corner @ om



Northeast corner @ om



Northwest corner @ om



Northwest corner @ om



Centre north @ 25m



Centre south @ 25m



Centre west @ 25m



Centre east @ 25m



Southwest corner @ 50m



Southwest corner @ 50m



Southeast corner @ 50m



Southeast corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Coral Berry sapling

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes.

What species?

Paspalum and Easter Cassia.

What management was undertaken to eradicate these weeds?

To be treated.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 8-14m
- Shrub species: 0.5-3m
- ground covers: <1.5m

Area already well established. Groundcovers increasing.

What are the dominant species within each layer?

- Tree: Casuarina gluaca
- Shrub: Melaleuca quinquenervia
- ground covers: Pteridium esculentatum +/- Gahnia

Have you noticed any new native plant species since the last inspection?

Yes

If yes name the species or take a photograph

Rubus moluccanus and Lygodium microphyllum

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. fairy wrens, finches and silvereye)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters, whipbird, noisy minor, spangled drongo)

Reptiles (i.e. skinks and red-bellied black snake)

Mammals (i.e. swamp wallaby)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No*

*Whilst there are areas exceeding the groundcover coverage performance criteria, these occur as Swamp Oak pine needles which are typical to Swamp Forest communities.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In good condition with minor areas of Paspalum and some saplings of Easter Cassia present which requires routine weed control. Previously treated Camphor Laurel has died and falling apart.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

PROJECT DESCRIPTION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147. Mapped Swamp Oak area proximate Belongil Creek. @ 557927, 6830883		**Monitoring Site ID:** P12
Type of on-grounds: Approved for assisted natural regeneration	**Years since site commenced:** 2.5	**When was this site last assessed?** 04-09-24
Current assessment conducted by: TR	**Date of current assessment:** 03-03-25	
Overall comments on site condition: Established Swamp Oak Community generally in good condition. Exotic grasses previously treated and browned off, although some remain within ground layer and require treatment during next weed control round. Dry underfoot at the time of inspection.		
Has the condition of the site changed since last assessment? YES. Improvement in native groundcover height since previous inspection, in particularly Bracken. Some additional species noted.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	97	Mostly dense native ground cover. Treated camphor laurel trees have been treated and died.	70	Dense	individual camphor laurel trees	Treated camphor laurel dieback. Increase in native groundcover density noted.	-	Routine monitoring and weed control.
B = Uncertain significant problems	3	Paspalum previous treated and left as mulch although some minor patches still remain and require treatment. Easter Cassia saplings requiring treatment during next round of weed control.	70	Dense	Pasture grasses, Easter Cassia	N/A	-	Treatment of pasture grasses and Easter Cassia required. Routine monitoring of native ground cover regeneration within treated areas.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								98.5 %

LOCATION

Site No.	P12							**Date:**	03-03-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. Within mapped Swamp Oak Forest proximate Belongil Creek. Rehabilitation Zone 6										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557927	**N**	6830883	**Datum:**	MGA94z56		

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	12-16	D
T2	3-12	S
S1	0.75-3	S
G	0.1-1.5	D

Structural formation: (including height)	Mid-high to Tall Open Forest
Ecologically dominant layer:	T1 - G

Dense growth of native ferns, sedges, rushes. Thick organic leaf layer and coarse woody debris present including casuarina needles.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1	D	*Casuarina glauca*
T1	A	*Melaleuca quinquenervia*
T1	S	*Melicope elleryana*
T1	S	*Cinnamomum camphora [treated/dead]*
T1		*Regenerating T1 species*
T2		*Acacia melanoxylon*
T2		*Cupaniopsis anacardioides*
T2		*Acacia melanoxylon*
T2		*Cupaniopsis anacardioides*
S1		*Breynia oblongifolia*
S1		*Regenerating T1/T2 species*
G		*Senna pendula**

Str.	Scientific Name
G	*Pteridium esculentum*
G	*Calochlaena dubia*
G	Exotic Grasses (*Paspalum spp)**
G	*Dianella caerulea*
G	*Blechnum indicum*
G	*Marsdenia rostrata*
G	*Smilax australis*
G	*Stephania japonica*
G	*Gahnia clarkei*
G	*Asplenium australasicum*
G	*Parsonsia straminea*
G	*Platycerium superbum*
G	*Commelina cyanea*
G	*Baumea juncea*
G	Lygodium microphyllum
G	Rubus moluccanus

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary estuarine alluvium overlain by and/or mixed with Quaternary (Pleistocene) sands. The sands are generally aeolian, originating from the adjacent beach ridge systems.
Field observation and notes:	Swamp Oak forest. Treatment has previously occurred to camphor laurels which have since died and starting to fall apart. Groundcover height and density increased since previous survey, in particularly the Bracken. Some minor Paspalum and Easter Cassia regeneration noted although still below the performance criteria (monitor).
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6: Existing Vegetation



Centreline @ om



Centreline @ 50m



NW corner @ om



NW corner @ om



NE corner @ om



NE corner @ om



Centreline south @ 25m



Centreline north @ 25m



Centreline east @ 25m



Centreline west @ 25m



SW Corner @ 50m



SW Corner @ 50m



SE Corner @ 50m



SE Corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Paspalum regenerating

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Small patches of Paspalum present.

What species?

Paspalum spp.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 14-20m
- Shrub species: 0.5-4m
- ground covers: <1.5m

Area already well established.

What are the dominant species within each layer?

- Tree: Melaleuca quinquenervia
- Shrub: Melaleuca quinquenervia
- ground covers: Eleocharis equisetina +/- Gahnia clarkei

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. fairy wrens, pardalote, silvereye and treecreeper)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters, eastern whipbird and emerald dove)

Reptiles (i.e. skinks and yellow faced whip snake)

Mammals (i.e. swamp wallaby)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In good condition with minor areas of Paspalum present which requires routines weed control.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147. Mapped Paperbark Forest area. @ 557731, 6831194		**Monitoring Site ID:** P13
Type of on-grounds: Approved for assisted natural regeneration	**Years since site commenced:** 2.5	**When was this site last assessed?** 04-09-24
Current assessment conducted by: TR	**Date of current assessment:** 03-03-25	
Overall comments on site condition: Established Paperbark Swamp Community. Fenced off and removed from construction zone. In excellent condition with minor weed intrusion (Paspalum).		
Has the condition of the site changed since last assessment? Yes. Area remains in excellent condition. Greener than previous inspection likely due to recent wet weather.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	97	Undisturbed area well removed from construction zone.	70	Moderate - Dense	None	N/A	-	Nil. Monitoring only.
B = Uncertain significant problems	3	Minor presence of exotic grass	70	Moderate - Dense	Paspalum	N/A	-	Routine weed control of exotic grass presence.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								98.5 %

LOCATION

Site No.	P13	**Date:**	03-03-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. Within mapped Paperbark Swamp Forest. Rehabilitation Zone 6		

GPS coordinates centre plot:	**Zone**	5	6	**E**	557731	**N**	6831194	**Datum:**	MGA94z56

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	14-20	D
T2	4-14	V
S1	0.5-4	V
G	0.1-1.5	M-D

Structural formation: (including height)	Mid-high to Tall Forest
Ecologically dominant layer:	T1

Dense growth of native ferns, sedges, rushes. Thick organic leaf layer and coarse woody debris present. Paspalum in parts.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1/T2	D	*Melaleuca quinquenervia*
T2	S	*Melicope elleryana*
S1		*Regenerating T1/T2 species*
G		*Sphagnum spp.*
G		*Histiopteris incisa*

Str.	Scientific Name
G	*Blechnum indicum*
G	*Baumea rubignosa*
G	*Juncus usitatus*
G	*Paspalum spp.**
G	*Lygodium microphyllum*
G	*Marsdenia rostrata*
G	*Pteridium esculentum*
G	*Calochlaena dubia*
G	*Gahnia clarkeri*
G	*Lepironia articulata*
G	*Phragmites australis*
G	*Parsonsia straminea*
G	*Commelina cyanea*
G	*Elaeocharis equisetina*
G	*Baloskion tetraphyllum*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Paperbark swamp forest. Historically fenced off from cattle. In excellent condition with very minor weed presence (Paspalum). Greener since last inspection, likely due to recent wet weather periods. Wet/muddy.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6: Existing Vegetation



Centreline @ om



Centreline @ 50m



Northeast corner @ om



Northeast corner @ om



Southeast corner @ om



Southeast corner @ om



Centreline west @ 25m



Centreline east @ 25m



Centre north @ 25m



Centre south @ 25m



Northwest corner @ 50m



Northwest corner @ 50m



Southwest corner @ 50m



Southwest corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Paspalum browned off

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes.

What species?

Minor areas of Easter Cassia and Paspalum spp.

What management was undertaken to eradicate these weeds?

N.A

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 10-15m
- Shrub species: 1.5-4m
- ground covers: <1.5m

Area already well-established.

What are the dominant species within each layer?

- Tree: Melaleuca quinquenervia
- Shrub: Acacia spp.
- ground covers: Baloskion tetraphylla +/- Blechnum indicum

Have you noticed any new native plant species since the last inspection?

No

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, wrens, and silvereye)

Reptiles (i.e. skinks)

Nectivore birds (i.e. honeyeaters, friarbirds, lorikeets)

Amphibians (i.e. eastern sedge-frog and laughing tree frog)

Mammals (i.e. swamp wallaby)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In excellent condition. Removal of isolated stems of easter cassia and small patches of paspalum required during routine weed control regime.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147. Mapped Paperbark Swamp Forest area off Melaleuca Drive. @ 557037, 6831497		**Monitoring Site ID:** P14
Type of on-grounds: Approved for assisted natural regeneration	**Years since site commenced:** 2.5	**When was this site last assessed?** 02-09-24
Current assessment conducted by: TR	**Date of current assessment:** 28-02-25	
Overall comments on site condition: Established Paperbark Swamp Forest Community. Fenced off and buffered from construction. Excellent condition. Very minor weed intrusion.		
Has the condition of the site changed since last assessment? YES. Remains in excellent condition although small increase in paspalum coverage noticed.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	99	Undisturbed area well removed from construction zone.	70	Dense	-	-	-	Nil. Monitoring only.
B = Uncertain significant problems	1	Very minor weed intrusion.	-	-	Isolated stems of easter cassia and a small patches of paspalum present	Some dead trees present in south east. No evidence of anything other than natural dieback. Isolated stems of easter cassia and a small patches of paspalum present	-	Remove stems of easter cassia and treat patches of paspalum.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								99.5 %

LOCATION

Site No.	P14							**Date:**	03-03-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. Within mapped Paperbark Swamp Forest off Melaleuca Drive. Rehabilitation Zone 6										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557037		**N**	6831497	**Datum:**	MGA94z56	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	12-15	M
T2	4-12	S
S1	0.5-4	V
G	0.1-1.5	D

Structural formation: (including height)	Mid-high to Tall Open Forest
Ecologically dominant layer:	T1

Dense growth of native ferns, sedges, rushes. Thick organic leaf layer and coarse woody debris present.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1	D	*Melaleuca quinquenervia*
T1	S	*Parsonsia straminea*
T2	S	*Elaeocarpus reticulatus*
T2	S	*Melicope elleryana*
T2	S	*Acacia spp.*
S		*Regenerating T1/T2 species.*
S	S	*Senna pendula**
S	S	*Myrsine howittiana*

Str.	Scientific Name
G	*Lobelia purpurascens*
G	*Baloskion tetraphylla*
G	*Gahnia clarkei*
G	*Blechnum indicum*
G	*Hibbertia scandens*
G	*Selaginella uliginosa*
G	*Marsdenia rostrata*
G	*Baumea spp*
G	*Parsonsia straminea*
G	Paspalum spp.*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary estuarine alluvium overlain by and/or mixed with Quaternary (Pleistocene) sands. The sands are generally aeolian, originating from the adjacent beach ridge systems.
Field observation and notes:	Paperbark Swamp forest. Fenced off and separated from construction footprint. Excellent condition with very minor weed intrusion.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6: Existing Vegetation



Centreline @ om



Centreline @ 50m



NW Corner @ om



NW Corner @ om



SW Corner @ om



SW Corner @ om



Centre North @ 25m



Centre North @ 25m



SE Corner @ 50m



SE Corner @ 50m



Centre West @ 25m



Centre East @ 25m



NE Corner @ 50m



NE Corner @ 50m



Ground centre @ 5m



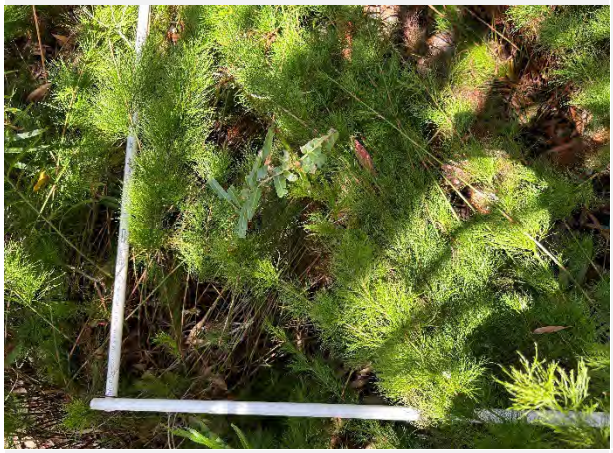
Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Easter Cassia sapling and some Paspalum

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes

What species?

Ardisia crenata

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 15-17m
- Shrub species: 1.5-3m
- ground covers: <1.5m

Area already well-established.

What are the dominant species within each layer?

- Tree: Melaleuca quinquenervia
- Shrub: Variety although regenerating M. quinquenervia most dominant.
- ground covers: Gahnia clarkei

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A.

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. fairy wrens, finches, golden-headed cisticola, silvereye, and spotted pardalote)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters, friarbird, and whipbird)

Omnivore birds (i.e. Pied Currawong)

Reptiles (i.e. skinks, water dragon)

Mammals (i.e. swamp wallaby)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In excellent condition with no current corrective actions required. Several Coral Berry plants noted which require treatment during the next round of routine weed control.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 149. North of fenced of paddock with drainage channel @ 558057, 6831220		**Monitoring Site ID:** P15
Type of on-grounds: approved for assisted natural regeneration to maintain existing Mid-high to Tall Open Dry Heath/Paperbark Forest	**Years since site commenced:** 2.5	**When was this site last assessed?** 14-03-24
Current assessment conducted by: TR	**Date of current assessment:** 03-03-25	
Overall comments on site condition: Paperbark and heath open forest on sand. In excellent condition. Regeneration of T1 species evident with excellent ground cover and native diversity in the lower strata.		
Has the condition of the site changed since last assessment? NO. Remains in pristine condition, although several saplings of Coral Berry noted.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	99	Mid-high to Tall Open Dry Heath/Paperbark Forest in excellent condition. Currently fenced off from surrounding pasture Very minor weed intrusion.	50-60%	Excellent. Dense native flora cover.	-	-	-	Nil. Monitoring only.
B = Uncertain significant problems	1	Very minor weed intrusion.	-	-	Isolated stems of Coral Berry	Several stems of Coral Berry present.	-	Treat several Coral Berry stems.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								99.5 %

LOCATION

Site No.	P15	**Date:**	03-03-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 149. North of fenced of paddock with drainage channel. Mid-high to Tall Paperbark Forest with Heath species. Rehabilitation Zone 6		

GPS coordinates centre plot:	**Zone**	5	6	**E**	558057	**N**	6831220	**Datum:**	MGA94z56

VEGETATION STRUCTURE

Stratum	Est. Median Height (m)	Est. cover density (D,M,S,V)
E	15-17	V
T1	8-14	M-D
T2	3-7	M
S	1.5-3	M-S
G	0-2	D

Structural formation: (including height)	Forest-Open Forest
Ecologically dominant layer:	T1

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
T1	D	*Melaleuca quinquenervia*
E	S	*Eucalyptus robusta [1]*
T1	D	*Melaleuca quinquenervia*
T1	S	*Duboisia myoporoides*
T1	S	*Lophostemon suaveolens*
T1	S	*Lophostemon confertus*
T1	S	*Elaeacarpus reticulatus*
T2		*Regenerating T1 species [excluding brushbox]*
T2		*Cryptocarya microneura*
T2		*Melicope elleryana*
T2		*Nematolepis squamea*
S		*Regenerating T1 and T2 species*
S		*Acrotriche aggregata*
S		*Austromyrtus dulcis*
S		*Leptospermum polygalifolium*
S		*Syzygium oleosum*
S		*Melastoma affine*
S		*Archontophoenix cunninghamiana*
S		*Acmena smithii*
S		*Acacia melanoxylon (juvenile)*
S		*Myrsine howittiana*

Str.	Scientific Name
G	*Gahnia clarkei*
G	*Baloskion tetraphylla*
G	*Pomax umbellata*
G	*Blechnum indicum*
G	*Pomax umbellata*
G	*Lomandra longifolia*
G	*Lygodium microphyllum*
G	*Calochlaena dubia*
G	*Histiopteris incisa*
G	*Pteridium esculentum*
G	*Liparophyllum exaltatum*
G	*Hibbertia scandens*
G	*Smilax australis*
G	*Marsdenia rostrata*
G	*Parsonsia straminae*
G	*Smilax glyciphylla*
G	*Pandorea pandorana*
G	*Ardisia crenata**
S	*Acacia sophorae*
G	*Drosera spatulata*
S	*Syzygium luehmannii*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Paperbark and heath open forest on sand. In excellent condition. Regeneration of T1 species evident with excellent ground cover and native diversity in the lower strata. Several small stems of Coral Berry noted.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6. Existing Mid-high to Tall Open Dry Heath/Paperbark Forest to be managed by assisted natural regeneration.



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



NE corner @ om



NE corner @ om



Centreline east @ 25m



Centreline west @ 25m



Centreline north @ 25m



Centreline south @ 25m



NW Corner @ 50m



NW Corner @ 50m



SW Corner @ 50m



SW Corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Coral Berry Requiring Treatment

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N/A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

No.

What species?

N/A

What management was undertaken to eradicate these weeds?

N/A

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 6-10m
- Shrub species: 1.5-4m
- ground covers: <1.5m

Area already well established.

What are the dominant species within each layer?

- Tree: Melaleuca quinquernervia
- Shrub: Acacia melanoxylon
- ground covers: Blechnum indicum

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Large nectar feeding birds (i.e. honeyeaters etc.)

Small tree and ground birds (i.e. finches)

Amphibians (i.e. wallum froglet, eastern sedgefrog, crinia signifera)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

Minor trampling noted throughout the plot, likely from previous frog surveys.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

N/A.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

PROJECT DESCRIPTION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 146. Paperbark/Heath Swamp Forest.@ 556849, 6831798		**Monitoring Site ID:** P1
Type of on-grounds: approved for assisted natural regeneration to maintain Paperbark/Heath Swamp Forest	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 12-08-25	
Overall comments on site condition: Closed Sedgeland/Fernland/ Rushland with scattered Paperbark Low Woodland. Excellent condition. Very wet underfoot (>50mm rainfall in the previous week). High frog vocalization activity.		
Has the condition of the site changed since last assessment? No.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	100	Native swamp in excellent condition. Currently fenced off from surrounding pasture	20-30% Summed for plot but only in NE, NW and SW corner	Dense native species	N/A	No change.		Assisted rehabilitation (weed management) is approved for this zone. Maintain exclusion from surrounding paddocks.
B = Uncertain significant problems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A (describe)
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A (describe)
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								100 %

LOCATION

Site No.	P1							**Date:**	12-08-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 146. Paperbark/Heath Swamp Forest. Rehabilitation Zone 6										
GPS coordinates centre plot/meander:	**Zone**	5	6	**E**	Centred @ 556849		**N**	Centred @ 6831798	**Datum:**	MGA94256	

VEGETATION STRUCTURE

Stratum	Est. Median Height (m)	Est. cover density (D,M,S,V)
E	-	-
T1	5-9	S-V
T2	3-5	S-V
S1	1.5-3	S-V
G	0-1	D

Structural formation: (including height)	Closed Sedgeland/Fernland/ Rushland with scattered Paperbark Low Woodland
Ecologically dominant layer:	G

Small clusters at northern and southern ends of plot

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
T1	D	*Melaleuca quinquenervia*
T1	S	*Glochidion ferdinandi*
T2		*Melaleuca quinquenervia*
T2		*Melicope elleryana*
S		*Elaeocarpus reticulatus*
S		*Oxylobium robustum*
S		*Leptospermum juniperinum*
S		*Banksia oblongifolia*
S		*Acacia melanoxylon*
S		*Austromyrtus dulcis*
S		*Homalanthus populifolius*

Str.	Scientific Name
G	*Blechnum indicum*
G	*Gahnia clarkei*
G	*Pteridium esculentum*
G	*Hibbertia scandens*
G	*Gleichenia dicarpa*
G	*Entolasia stricta*
G	*Imperata cylindrica*
G	*Paspalidium distans*
G	*Baloskion tetraphyllum*
G	*Pomax umbellata*
G	*Lygodium microphyllum*
G	*Selaginella uliginosa*
G	*Sphagnum cuspidatum*
G	*Baumea rubiginosa*
G	*Parsonsia straminea*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	The overall 0.65ha vegetation zone is comprised of an open canopy layer of Melaleuca quinquenervia and a sparse midstorey/shrub layer including species such as Gahnia clarkei, Elaeocarpus reticulatus, Leptospermum juniperinum, Oxylobium robustum and Acacia ulicifolia. The ground layer was relatively dense and included a 0.06 ha area of ephemeral sedge swamp dominated by Baumea rubiginosa, with occasional Blechnum indicum and patches of Baloskion tetraphyllum. Outside of the sedge swamp, the balance of the vegetation zone comprised dense understorey vegetation dominated by Baloskion tetraphyllum, with Hibbertia scandens and Parsonsia straminea in areas and various ferns throughout (e.g. Blechnum indicum, Pteridium esculentum, Gleichenia dicarpa, Lygodium microphyllum). Grasses were present throughout the site, and included native species such as Entolasia stricta, Imperata cylindrica and Paspalidium distans. Forbs included Pomax umbellata and Selaginella uliginosa. Weed free within the 1000m² plot and currently fenced. Recorded Wallum Froglet and Wallum Sedge Frog habitat. Treated camphor laurel trees are dead and starting to break apart. Some minor tramping of ferns in areas, likely from previous frog surveys and/or landscape contractor conducting routine inspection. Very wet underfoot at the time of survey (>50mm rainfall in the previous week.).

SITE FORM C

Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6. Existing Sedgeland/Fernland/Rushland Swamp to be managed by assisted natural regeneration.



Centreline @ om



Centreline @ 50m



NE corner @ om



NE corner @ om



NW corner @ om



NW corner @ om



Centreline South @ 25m



Centreline North @ 25m



Centre west @ 25m



Centre east @ 25m



SW Corner @ 50m



SW Corner @ 50m



SE Corner @ 50m



SE Corner @ 50m



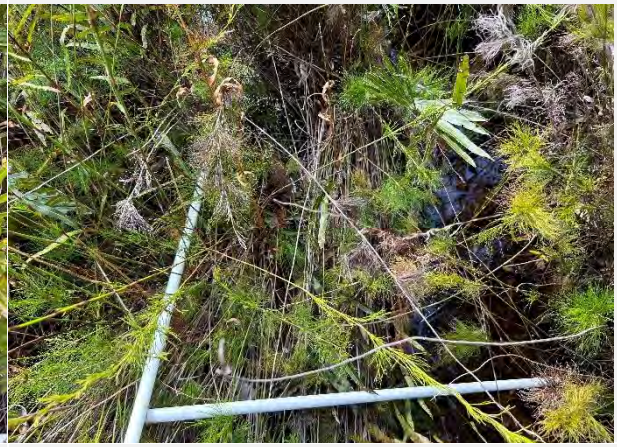
Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Previously treated Camphor Laurel trees breaking apart

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses present with Columbian Waxweed also common.

What species?

Andropogon virginicus, Paspalum, Axonopus spp. and Columbian Waxweed.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: N/A
- Shrub species: 1-2m
- ground covers: <1.5m

What are the dominant species within each layer?

- Tree: N/A
- Shrub: Melaleuca quinquenervia
- ground covers: Philydrum lanuginosum and Baumea

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

-

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. wrens)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Minor section of fencing down, requiring repair.

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 2 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 2 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Weed removal to be undertaken to treat exotic grasses. Protection fencing to be repaired.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147 @ 557080, 6831531		**Monitoring Site ID:** P2
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 08.09.25	
Overall comments on site condition: Good conversion from grazed pasture to Freshwater Wetland since baseline survey. Exotic grasses coverage has decreased since last inspection with native wetland groundcover species overtaking, although exotic grasses are still common within the drier areas in the northern sections of the rehab zone. Plantings and wetland species increasing in height and coverage. Wet.		
Has the condition of the site changed since last assessment? YES. Increase in wetland/plantings height and coverage. Pasture grass less prominent with native wetland species taking over. Protection fencing requires minor repairs.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	75	Freshwater wetland flora establishing.	0 Juvenile phase	Dense establishing native flora species.	Nil	Sporadic melaleuca quinequenrvia + planted species.		Routine weed control.
B = Uncertain significant problems	25	Freshwater wetland flora establishing 25% estimate of area is estimated to have exotic grasses.	0 Juvenile phase	Mid – dense of pasture grasses	Pasture grasses Columbian waxweed	Sporadic melaleuca quinequenrvia + planted species.		Routine weed control.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								87.5%

LOCATION

Site No.	P2	**Date:**	08-09-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147 Rehabilitation Zone 2		

GPS coordinates centre plot:	**Zone**	5	6	**E**	557080	**N**	6831531	**Datum:**	MGA94256

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	-	-
T2	-	-
S1	0.25-2	V
G	0.1-0.1.5	D

Structural formation: (including height)	rushland/ sedgeland/ wetland
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		-
S		*Melaleuca quinquenervia*
S		*Callistemon salignus*
S		*Lophostemon suaveolens*
S		*Eucalyptus robusta*
G		*Pomax umbellata*

Str.	Scientific Name
G	Pasture Grasses
G	*Baloskion tetraphylla*
G	*Eleocharis dulcis*
G	*Blechnum indicum*
G	*Juncus usitatus*
G	*Cyperus* spp.
G	*Persicaria decipiens, P. strigosa*
G	*Imperata cylindrica*
G	*Philydrum lanuginosum*
G	*Liparophyllum exaltatum*
G	*Baumea spp*
G	*Cuphea carthagenensis**
G	*Centella asiatica*
G	*Hemarthria uncinata*
G	*Fimbristylis dichotoma*
G	*Drosera spatulata*
G	*Selaginella uliginosa*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Previously established Pasture Grassland managed and transforming to wetland vegetation under natural regeneration efforts with supplementary plantings. Exotic grasses common. Wet at time of inspection. Protection fencing installed at the interface between slashing area and rehab zone, requires minor repairs.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 2: Freshwater Wetland



Centreline @ om



Centreline @ 50m



NW corner @ om



NW corner @ om



SW corner @ om



SW corner @ om



Centre South @ 25m



Centre North @ 25m



Centre East @ 25m



Centre West @ 25m



SE corner @ 50m



SE corner @ 50m



NE corner @ 50m



NE corner @ 50m



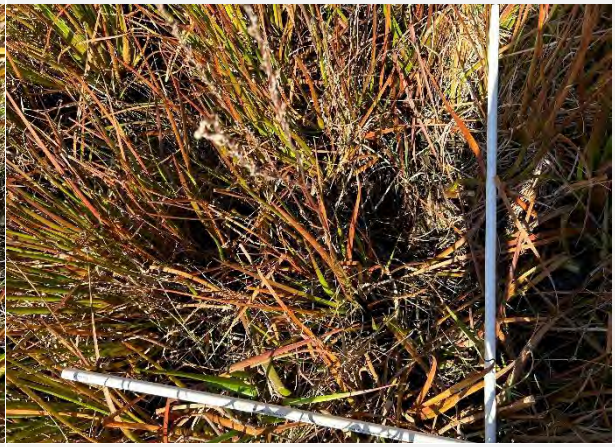
Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

Some leftover plastic tube stock containers and plantings labels observed.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Pasture grasses, Columbian waxweed and Nymphaea spp.

What species?

Andropogon virginicus, Axonopus, Paspalum, *Nymphaea spp.* and Columbian waxweed

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 4-6m
- Shrub species: <1.2m
- ground covers: <1.6m

What are the dominant species within each layer?

- Tree: Elaeocarpus reticulatis
- Shrub: Melaleuca quinquenervia
- ground covers: Baumea spp / Leipronia acticulata

Have you noticed any new native plant species since the last inspection?

Yes

If yes name the species or take a photograph

Hemarthria uncinata, Fimbristylis dichotoma and Centella asiatica

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, rainbow bee-eater and wrens)

Nectivore birds (i.e. honeyeaters)

Wader Birds (i.e. white-necked heron)

Amphibians (i.e. striped marsh frog, Eastern Sedgefrog, crinia signifera)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Fencing at the interface between the development footprint and rehabilitation zone 2 requires some minor repairs.

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? Yes.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 2 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 3 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Frog ponds have been constructed and planted out and establishing nicely. Water depth varies between ~0-0.75m. Weed control to treat pasture grass required within areas external to the frog ponds and infill with plantings once treated to increase coverage. Several plantings have died and require replacing. Some Nymphaea spp. noted within frog pond.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147 @ 557262, 6831473		**Monitoring Site ID:** P3
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat / frog ponds	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 08-09-25	
Overall comments on site condition: Pasture Grassland with regenerating wetland flora. Frog ponds created and planted out. So far, it's looking good (i.e. no obvious dead plantings and increasing in height and coverage). Some plantings have died and require replacing external to the frog ponds.		
Has the condition of the site changed since last assessment? YES. Frog pond plantings increasing in height and coverage. Wetland species increasing in coverage externally to frog ponds. Some *Nymphaea spp.* Noted within frog pond.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	80	Frog ponds created and planted out with aquatic/wetland species. External to the frog ponds, freshwater wetland flora establishing amongst the pasture grassland.	0 Juvenile stage.	Mid-dense establishing native flora species.	Pasture grasses	Persoonia stradbrokensis, Melaleuca quinquenervia + planted aquatic/wetland species within the frog ponds.		Ongoing routine management of pasture grasses. Keeping monitoring frog pond plantings.
B = Uncertain significant problems	20	Pasture grasses present within areas external to the frog ponds. Weed control required. Several plantings have died and require replacing.	0	Dense	Pasture grasses	Performance criteria for weeds not achieved in some areas.		Ongoing routine management of pasture grasses required. Replace dead plantings
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								90 %

LOCATION

Site No.	P3							**Date:**	08-09-25		
Purpose	VEGETATION/REHABILITATION MONITORING 40m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. In the southeast. Rehabilitation Zone 2. Frog pond.										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557262		**N**	6831473	**Datum:**	MGA94z56	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)	
E	-	-	
T1	-	-	
T2	4-8	V	Established trees along northern banks of pond.
S1	0.25-1.2	V	Several paperbark stems.
G	0.1-1.2	D	Frog pond plantings, regenerating wetland species and pasture grass

Structural formation: (including height)	Closed Grassland
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		*Acacia sophorae*
T2		*Elaeocarpus reticulatus*
S		*Melaleuca quinquenervia*
S		
S		
G		*Eleocharis dulcis*
G		*Drosera spatulata*
G		*Calochlaena dubia*
G		*Hemarthria uncinata*
G		*Fimbristylis dichotoma*

Str.	Scientific Name
G	Pasture Grasses along banks*
G	*Baloskion tetraphylla*
G	*Blechnum indicum*
G	*Juncus usitatus*
G	*Cyperus* spp.
G	*Philydrum lanuginosum*
G	*Lygodium microphyllum*
G	*Baumea juncea*
G	*Baumea rubiginosa*
G	*Baumea articulata*
G	*Schoenoplectus validus*
G	*Leipronia articulata*
G	*Cuphea* *
G	*Centella asiatica*
G	*Nymphaea spp.*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Frog ponds have been constructed and planted. Plantings establishing nicely. Water depth varies ~0-0.75m in depth. The previous monitoring plot of P3 has been relocated further to the west and is 40m x 20m in size. Given the depth of water within the frog pond and the soft nature of the sandy soil, no groundcover photos or centre photos were undertaken. This may change in the future once the plantings have become more established and the soft soil stabilises. Visually obvious that the coverage and height of the plantings are increasing. Some Nymphaea noted within frog pond. External to the frog ponds previous plantings and treatments of pasture grasses have occurred, although the pasture grasses are still present. Several plantings have died and require replacement. Protection fencing installed at the interface between the approved development footprint and rehabilitation zone requiring minor repairs.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 2: Freshwater Wetland & Constructed Frog Pond



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



SW corner @ om



SW corner @ om



NW corner @ 50m



NW corner @ 50m



NE corner @ 50m



NE corner @ 50m



Several plantings died and require replacing.



Fencing at rehabilitation zone interface requiring minor repairs

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses re-establishing (predominantly within the eastern sections) and some Columbian Waxweed.

What species?

Andropogon virginicus, Setaria sphacelata, Paspalum, Axonopus and Cuphea.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 1-5m (planted Eucalypts)
- Shrub species: 0.5-3m (Leptospermums)
- ground covers: 0.2-1.5m

What are the dominant species within each layer?

- Tree: Eucalyptus spp.
- Shrub: Leptospermum spp.
- ground covers: Pasture grasses +/- Bracken and Bunchy Sedge

Have you noticed any new native plant species since the last inspection?

Yes.

If yes name the species or take a photograph

Macarana tanarius and Parsonsia streaminea

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, wagtail, grassbird and wrens)

Raptor (i.e. white bellied sea eagle)

Reptiles (i.e. skinks and red-bellied black snake)

Amphibians (i.e. striped marsh frog, crinia signifera and eastern sedge frog)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 3 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 3 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Weed removal to be undertaken to control pasture grass. Supplementary plantings to be undertaken post pasture grass treatment to increase coverage in bare/grassy areas. Plantings required along previous access tracks to frog ponds.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 148. In the north @ 557480, 6831293		**Monitoring Site ID:** P4
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 08-09-25	
Overall comments on site condition: Pasture grassland re-establishing/dominant in some eastern parts. Zone revegetated with freshwater wetland module. Plantings going well with a noticeable increase in height and coverage. Supplementary plantings required in areas currently suppressed by pasture grass (following treatment), predominantly within the eastern areas of the plot. Plantings also required along the previous construction access track for the frog ponds.		
Has the condition of the site changed since last assessment? YES. Noticeable increase in plant heights/coverage.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	75	Revegetation zone with some natural recruitment. Substantial replacement of previous pasture.	0 Juvenile phase	Planted species, mostly rushes and sedge with eucalypts/paperbarks also present.	Pasture grass	Several species mostly planted with some regeneration (refer preceding page). Increasing in height and coverage. Some loss of planted trees including 'topped' specimens from wallaby graze.		Ongoing routine management of pasture grasses. Supplementary plantings required for pasture grass areas post treatment.
B = Uncertain significant problems	25	Nominal 30% representing pasture grasses re=establishing.	0 Juvenile phase	Planted species, mostly rushes and sedge with eucalypts/paperbarks also present.	Pasture grass Columbian Waxweed	Several species mostly planted with some regeneration (refer preceding page) Performance criteria for weeds and coverage not achieved.		Ongoing routine management of pasture grasses. Weed control required for pasture grasses. Supplementary plantings required pasture grass dominant areas post treatment.

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								87.5 %

LOCATION

Site No.	P4	**Date:**	08-09-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 148. In the north. Rehabilitation Zone 3		

GPS coordinates centre plot:	**Zone**	5	6	**E**	557480	**N**	6831293	**Datum:**	MGA94256

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)	
E	-	-	
T1	-	-	
T2	1-3	S	Planted Eucalypts
S1	0.25-2	S	Mostly planted natives
G	0.1-1.5	S	Planted and recruited natives
G	0.05-1.2	S-M	Pasture grass and planted wetland natives

Structural formation: (including height)	Open Rush/Sedgeland revegetation zone over low controlled pasture grass
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		*Eucalyptus robusta*
S		*Persoonia stradbrokensis*
S		*Acacia melanoxylon*
S		*Acacia sophorae*
S		*Leptospermum spp.*
S		*Melaleuca quinquenervia*
S		*Oxylobium robustum*
S		*Bansia robur*
S		*Eucalyptus tereticornis*
S		*Callistemon salignus*
S		*Leptospermum polygalifolium*
S		*Lophostemon suaveolens*
S		*Eucalyptus robusta*
S		*Melastoma affine*
S		*Callistemon salignus*
S		*Casuarina glauca*
S		*Macaranga tanarius*

Str.	Scientific Name
G	Pasture Grasses
G	*Baloskion tetraphylla*
G	*Centella asiatica*
G	*Cyperus spp.*
G	*Pteridium esculentum*
G	*Ischaemum australe*
G	*Baumea juncea/rubiginsoa*
G	*Juncus usitatus*
G	*Carex appressa*
G	*Liparophyllum exaltatum*
G	*Histiopteris incisa*
G	*Lobelia stenophylla*
G	*Gahnia spp.*
G	*Hardenbergia violacea*
G	*Cuphea carthagenensis**
G	*Calochlaena dubia*
G	*Elaeocharis dulcis*
G	*Fimbristylis dichotoma*
G	*Goodenia rotundifolia*
G	*Drosera spatulata*
G	Parsonsia straminea

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Previous tall, closed grassland now managed as a revegetation zone. Planted native species and retained regenerating species established and increasing in heigh and coverage. Pasture grasses are present throughout the area, in particularly within the eastern portions and require treatment. Noticeable increase in height and coverage of native vegetation since previous inspection, in particularly the Leptospermums and Bunchy Sedges. Previous access tracks for the construction of frog ponds are dominated by exotic grasses and requires native plantings.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 3: Freshwater Wetland



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



NE corner @ om



NE corner @ om



Centre west @ 25m



Centre east @ 25m



Centre south @ 25m



Centre north @ 25m



SW corner @ 50m



SW corner @ 50m



NW corner @ 50m



NW corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Previous frog pond access track requiring plantings

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses established within areas externally to frog ponds.

What species?

Andropogon virginicus, Axonopus spp, Setaria sphacelata and Paspalum.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: N/A
- Shrub species: 0.25-2.2m
- ground covers: <1.75m

What are the dominant species within each layer?

- Tree: N/A
- Shrub: Melaleuca quinquenervia
- ground covers: Pasture Grass / Cyperus spp. (Leipronia articulata within frog ponds)

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

-

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. fairy wrens)

Amphibians (i.e. striped marsh frog and eastern sedge frog)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

N/A

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? Yes.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 3 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 3 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Frog ponds have been constructed with plantings establishing nicely. Water depth varies between 0-0.5m. Weed control to treat pasture grass required within areas external to the frog ponds and infill with plantings once treated to increase coverage, in particularly tree/shrub species.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 148. Centre. @ 557425, 557425		**Monitoring Site ID:** P5
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat. Frog pond.	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 08-09-25	
Overall comments on site condition: Pasture Grassland with regenerating wetland flora. Frog ponds created with plantings establishing nicely (i.e. no obvious dead plantings). Paperbarks regenerating although pasture grass dominates areas south of the frog pond. Treatment of pasture grasses required with supplementary plantings to follow to increase native shrub/tree coverage.		
Has the condition of the site changed since last assessment? YES. Frog ponds have been constructed and planted out with aquatic/wetlands species and establishing nicely. External to the frog ponds, pasture grass is dominant. Paperbark saplings increasing in height and coverage although more shrub/tree species is required (supplementary plantings).		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	50	Frog ponds created and planted out with aquatic/wetland species. External to the frog ponds, freshwater wetland flora establishing amongst the pasture grassland.	0 Juvenile phase	Mid-dense establishing native flora species.	Pasture grasses	Performance criteria for coverage not achieved.		Ongoing routine management of pasture grasses. Paperbark saplings increasing in height and coverage.
B = Uncertain significant problems	50	Pasture grasses have re-established within areas external to the frog ponds. Weed control required. Some rubbish was observed.	0 Juvenile phase	Dense non-native	Pasture grasses	Performance criteria for weeds and coverage not achieved.		Ongoing routine management of pasture grasses required. Remove rubbish. Following pasture grass treatment, Infill plantings required to achieve coverage criteria.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								75 %

LOCATION

Site No.	P5							**Date:**	08-09-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 148. Centre. Rehabilitation Zone 3. Frog Pond.										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557425		**N**	557425	**Datum:**	MGA94256	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	-	-
T2	-	-
S1	0.25-2.5	V-S
G	0.1-1.75	D

Structural formation: (including height)	Closed Grassland with regenerating rushland/ sedgeland/ wetland flora in the south
Ecologically dominant layer:	G

Primarily Regenerating Paperbarks

Predominantly planted wetland/frog pond species and Pasture Grass

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		-
S		*Melaleuca quinquenervia*
S		*Persoonia stradbrokensis*
S		*Acacia melanoxylon*
S		*Acacia sophorae*
S		*Eucalyptus tereticornis*

Str.	Scientific Name
G	Pasture Grasses *
G	*Baloskion tetraphylla*
G	*Eleocharis dulcis*
G	*Juncus usitatus*
G	*Cyperus spp.*
G	*Lygodium microphyllum*
G	*Fimbristylis ferruginea*
G	*Liparophyllum exaltatum*
G	*Centella asiatica*
G	*Baumea juncea, B. rubiginosa, B. articulata*
G	*Xyris complanata*
G	*Ischaemum australe*
G	*Philydrum lanuginosum*
G	*Schoenoplectus validus*
G	*Leipronia articulata*
G	*Viola hederacea*
G	*Cuphea carthagenensis**
G	*Drosera spatulata*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Frog pond plantings establishing nicely. Water depth varies ~0-0.5m in depth. External to the frog ponds previous plantings/natural regeneration have occurred, although pasture grass is dominant. Treatment of pasture grass is required with supplementary plantings to follow within areas north of the frog ponds. Increase in plantings/natural regeneration height noted, in particularly paperbarks.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 3: Freshwater Wetland.



Centreline @ om



Centreline @ 50m



NW corner @ om



NW corner @ om



NE corner @ om



NE corner @ om



Centreline North @ 25m



Centreline South @ 25m



Centre west @ 25m



Centre east @ 25m



SW corner @ 50m



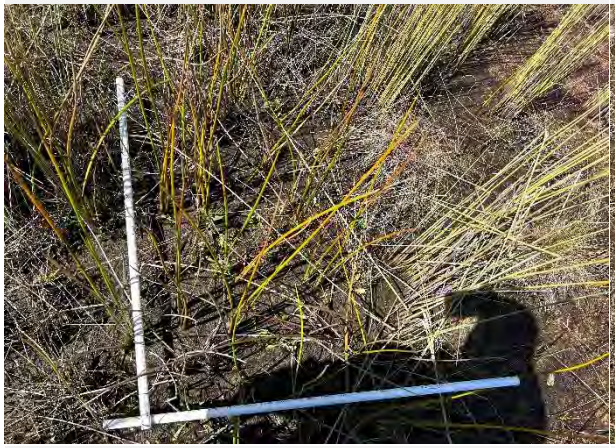
SW corner @ 50m



SE corner @ 50m



SE corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses established.

What species?

Andropogon virginicus, Axonopus and Paspalum.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: N/A
- Shrub species: 0.25-2.75m
- ground covers: <1.5m

What are the dominant species within each layer?

- Tree: N/A
- Shrub: Melaleuca quinquenervia
- ground covers: Baumea spp. +/- Cyperus spp and Pasture Grass (Lepironia articulata associated with frog ponds)

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A.

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, grassbird and wrens)

Amphibians (i.e. eastern sedgefrog)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

N/A.

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 3 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 3 is exempt from the groundcover coverage requirement.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Generally in good condition and regenerating nicely, although exotic grass still prominent, in particularly within the northern areas which are drier. Pasture grass requiring treatment.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 148. Southeast. @ 557494, 6831176		**Monitoring Site ID:** P6
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat. Frog pond.	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 08-08-25	
Overall comments on site condition: Pasture Grassland with regenerating wetland flora. Frog ponds created and planted out. So far, it's looking good (i.e. no obvious dead plantings and increasing in heigh/coverage). Paperbarks regenerating nicely although pasture grass is prominent in sections. Wet under feet. Pasture grass requiring treatment in areas.		
Has the condition of the site changed since last assessment? YES Frog pond plantings increasing in height and coverage. Melaleuca quinquenervia juveniles very common and increasing in height and coverage.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	90	Freshwater wetland flora establishing amongst the pasture grassland supplemented by native plantings. Frog ponds created and planted out with aquatic/wetland species.	0	Mid-dense to dense establishing native flora species.	Pasture grasses	Excellent regeneration of paperbark. Native species height and coverage increasing and achieving performance criteria.		Ongoing routine management of pasture grasses. Paperbark saplings increasing in height and coverage. Monitor frog pond planting success.
B = Uncertain significant problems	10	10% estimate of pasture grasses which requires treatment.	0	Dense non-native	Pasture grasses	Pasture grass prominent in areas. Performance criteria for weeds not achieved.		Ongoing routine management of pasture grasses.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								95 %

LOCATION

Site No.	P6	**Date:**	08-09-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 148. Southeast. Rehabilitation Zone 3. Frog Pond		

GPS coordinates centre plot:	**Zone**	5	6	**E**	557494	**N**	6831176	**Datum:**	MGA94256

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	-	-
T2	-	-
S1	0.25-2.75	S-M
G	0.1-1.5	D

Structural formation: (including height)	Closed Freshwater Wetland/Rushland/Sedgeland with Pasture Grassland Associated
Ecologically dominant layer:	G

Predominantly regenerating Paperbarks

Frog pond plantings and regenerating wetland species and pasture grass.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		-
S		*Melaleuca quinquenervia*
S		*Breynia oblongifolia*
S		*Acacia sophorae*

Str.	Scientific Name
G	Pasture Grasses
G	*Baloskion tetraphylla*
G	*Eleocharis dulcis*
G	*Juncus usitatus*
G	*Cyperus* spp. x 2
G	*Lygodium microphyllum*
G	*Fimbristylis ferruginea*
G	*Liparophyllum exaltatum*
G	*Centella asiatica*
G	*Baumea juncea, B. rubiginosa, B. articulata*
G	*Blechnum indicum*
G	*Gahnia clarkei*
G	*Lepironia articulata*
G	*Philydrum lanuginosum*
G	*Schoenus brevifolius*
G	*Centella asiatica*
G	*Phragmite australis*
G	*Xyris complanata*
G	*Lobelia stenophylla*
G	*Schoenoplectus Validus*
G	*Selaginella uliginosa*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Regenerating freshwater wetland with pasture grasses present. Excellent regeneration of paperbark saplings and aquatic flora from baseline. Increase in plantings/natural regeneration height and coverage. Pasture grass requires control, in particularly in the northern areas external to the frog ponds which are a bit drier. Wet under feet at time of survey. Frog pond plantings are establishing nicely. Water depth varies ~0-0.5m in depth.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 3: Freshwater Wetland. Constructed Frog Pond.



Centreline @ om



Centreline @ 50m



NE corner @ om



NE corner @ om



NW corner @ om



NW corner @ om



Centre west @ 25m



Centre east @ 25m



Centre south @ 25m



Centre north @ 25m



SW corner @ 50m



SW corner @ 50m



SE corner @ 50m



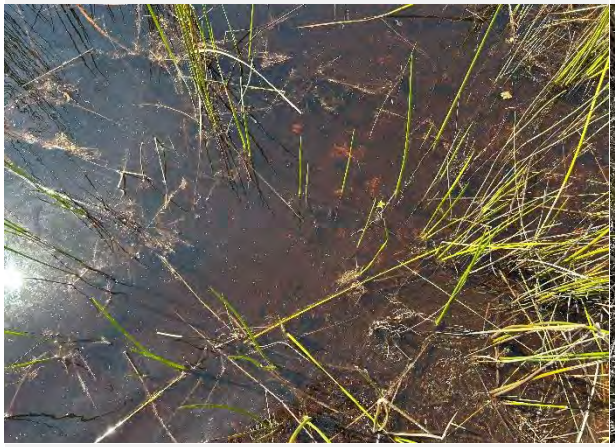
SE corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Frog Pond Plantings Establishing Nicely

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<table>
<tr>
<td>
<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A
</td>
<td>
<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses re-established.

What species?

Andropogon virginicus, Paspalum spp., Axonopus spp. Groundsel and some Columbian Waxweed.

What management was undertaken to eradicate these weeds?

To be treated.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.
</td>
<td>
<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: Some planted Eucalypts 5m+ in height
- Shrub species: 0.25-2m
- ground covers: 0.1-1.25m

What are the dominant species within each layer?

- Tree: Eucalyptus spp.

- Shrub: Melaleuca quinquenervia +/- Eucalyptus spp.

- ground covers: Whiskey Grass and Lomandras

Have you noticed any new native plant species since the last inspection?

Stephania japonica

If yes name the species or take a photograph

Yes.

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.
</td>
</tr>
<tr>
<td>
<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches and wrens)

Mammal (i.e. Swamp Wallaby, Bandicoot diggings)

Reptiles (i.e. skinks)
</td>
<td>
<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences
- Good
- Need minor repair
- Poor (need replacement)

N/A
</td>
<td>
Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? Yes.

General Coverage/Success? Yes.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Natural regeneration and plantings establishing nicely, although exotic grass is becoming re-established, particularly within the southern areas of the Zone. Bandicoot diggings and wallaby scats common. Supplementary plantings required to increase coverage once exotic grass is treated.
</td>
</tr>
</table>

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 149. In south of paddock. @ 557990, 6830947		**Monitoring Site ID:** P7
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Swamp Sclerophyll Forest Habitat	**Years since site commenced:** 3	**When was this site last assessed?** 03-03-25
Current assessment conducted by: TR	**Date of current assessment:** 18-08-25	
Overall comments on site condition: Previous pasture grassland controlled and revegetated with swamp sclerophyll module, although whiskey grass and carpet grass becoming re-established in areas, particularly the southern areas of the zone. Planted species taking off excellently, in particularly the Eucalypts.		
Has the condition of the site changed since last assessment? YES. Plantings establishing nicely and increasing in height and coverage. Pasture grass persisting.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	65	Revegetation zone with natural recruitment. Substantial replacement of previous pasture. Plantings increasing in height and coverage.	0 Juvenile phase	Planted species	Pasture grass	Several species mostly planted with some regeneration (refer preceding page) Native plantings increasing in height and coverage.		Ongoing routine management of pasture grasses. Treatment of pasture grasses required. Supplementary plantings required following treatment of pasture grasses
B = Uncertain significant problems	35	35% representing pasture re-establishing.	0 Juvenile phase	Dense non-native	Pasture grasses	Several species mostly planted with some regeneration (refer preceding page) Performance criteria for weeds and coverage not achieved in some areas (primarily where pasture grass has taken over).		Ongoing routine management of pasture grasses. Treatment of pasture grasses required. Supplementary plantings required following treatment of pasture grasses.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								82.5 %

LOCATION

Site No.	P7							**Date:**	18-08-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 149. In south of paddock. Rehabilitation Zone 4										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557990		**N**	6830947	**Datum:**	MGA94z56	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)	
E	-	-	
T1	-	-	
T2	1.5-5	S	Planted eucalypts
S1	0.25-2	V	Mostly planted natives
G	0.1-1.25	M	Planted and recruited natives
G	0.1-1.25	S-M	Pasture grass and planted natives with some natural recruitment

Structural formation: (including height)	Very Open Shrubland revegetation zone over low controlled pasture grass
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
S		Melaleuca quinquenervia
S		Persoonia stradbrokensis
S		Acacia sophorae
S		Lophostemon suaveolens
S		Zieria smithii
T2/S		Lophostemon confertus
T2/S		Eucalyptus tereticornis
S		Bankisa robur
S		Austromyrtus dulcis
S		Leptospermum polygalifolium
S		Callistemon salignus
S		Casuarina glauca
S		Corymbia intermedia
T2/S		Eucalyptus robusta
S		Callistemon pachyphyllus
S		Syzygium oleosum

Str.	Scientific Name
G	Pasture Grasses *
G	Baloskion tetraphylla
G	Blechnum indicum
G	Hibbertia scandens
G	Cyperus spp.
G	Gahnia clarkei
G	Centella asiatica
G	Pteridium esculentum
G	Wahlenbergia gracilis
G	Drosera spatulata
G	Liparophyllum exaltatum
G	Lomandra spp.
G	Histiopteris incisa
G	Fimbristylis ferruginea
G	Xyris complanata
G	Hardenbergia violaceae
G	Viola hederacea
G	Baccharis halimifolia*
G	Cuphea carthagenensis*
G	Pomax umbellata
G	Imperata cylindrica
G	*Staphania japonica*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes	Previous tall, closed grassland now managed as a revegetation zone. Coverage and height improved from previous inspection with planted native species and retained regenerating species establishing nicely. Pasture grass remains persistent within understory and requires treatment. Nest boxes survived Cyclone Alfred and are still there. Bandicoot diggings and wallaby scats common within zone.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 4: Swamp Sclerophyll Forest.



Centreline @ om



Centreline @ 50m



SE corner @ om



SW corner @ om



Centre south @ 25m



Centre north @ 25m



Centre east @ 25m



Centre west @ 25m



NW corner @ 50m



NE corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Patches of Pasture Grass requiring treatment

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<table>
<tr>
<td>
<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A
</td>
<td>
<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses within western areas present although not dominant.

What species?

Andropogon virginicus, Axonopus and Paspalum.

What management was undertaken to eradicate these weeds?

To be treated.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.
</td>
<td>
<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 1-5m
- Shrub species: 0.25-2m
- ground covers: 0.1-1.5m

What are the dominant species within each layer?

- Tree: Eucalyptus robusta

- Shrub: Melaleuca quinquenervia

- ground covers: Baloskion tetraphylla +/- Baumea spp.

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.
</td>
</tr>
<tr>
<td>
<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches and wrens)

Amphibians (i.e. crinia signifera)

Mammals (i.e. Swamp Wallaby)
</td>
<td>
<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences
- Good
- Need minor repair
- Poor (need replacement)

N/A
</td>
<td>
Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Natural regeneration and plantings establishing nicely, although exotic grass (primarily Whiskey Grass, Carpet Grass and Paspalum) is present and requires treatment within western edges of the plot/zone. Several tree guards requiring re-fitting. Pasture grass smothering several plantings.
</td>
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</table>

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 149. In east of paddock. @ 558101, 6831072		**Monitoring Site ID:** P8
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Swamp Sclerophyll Forest Habitat	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 12-08-25	
Overall comments on site condition: Regenerating freshwater wetland with pasture grasses present but not dominant. Wetland species starting to smother the pasture grass. Revegetated swamp sclerophyll module on the fringe with tree species planting throughout. Very wet underfoot in parts during inspection.		
Has the condition of the site changed since last assessment? YES. Native shrubs and trees planted and naturally regenerating nicely, increasing in height and density. Pasture grass prominent in the western sections of plot/zone. Native groundcover species (in particularly baloskion) starting to smother/dominate the pasture grasses.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	80	Freshwater wetland flora establishing amongst the previous pasture grassland supplemented by native plantings.	0	Dense establishing native aquatic flora species.	Pasture grasses	Regenerating and supplementary planting performed. Increasing in height and coverage.		Ongoing monitoring of pasture grasses for natural regeneration. May require some treatment in the western sections where whiskey grass is prominent, although it has improved since previous inspection. Monitoring and routine follow up weed control where needed. Monitor mulch around tree bases and top up as needed.
B = Uncertain significant problems	20	20% estimate of pasture grasses or areas not containing regeneration or planted native species.	0	non-native grasses within wetland	Pasture grasses	Regenerating and supplementary planting performed. Performance criteria for weeds not achieved within the western areas of the zone/plot where it's drier.		Ongoing monitoring/treatment of pasture grasses for natural regeneration in drier western areas. Several tree guards require re-fitting. Pasture grasses noted smothering several plantings within the tree guards.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								90 %

LOCATION

Site No.	P8						**Date:**	12-08-25			
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 149. In east of paddock. Rehabilitation Zone 4										
GPS coordinates centre plot:	**Zone**	5	6	**E**	558101		**N**	6831072	**Datum:**	MGA94256	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	-	-
T2	1-5	S
S1	0.25-2	V-S
G	0.1-1.5	D

Structural formation: (including height)	Regenerating rushland/ sedgeland/ wetland flora with previous grassland becoming subdominant
Ecologically dominant layer:	G

Several Eucalypts and Paperbarks

Native flora becoming dominant. Some patches of pasture grasses remain.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		Melaleuca quinquenervia
T2		Eucalyptus robusta
S		Melaleuca quinquenervia
S		Persoonia stradbrokensis
S		Lophostemon suaveolens
S		Casuarina glauca
S		Melastoma affine
S		Oxylobium robustum
S		Banskia integrifolia
S		Leptospermum spp.
S		Banksia robur
S		Eucalyptus robusta
S		Corymbia intermeida
S		Eucalyptus tereticornis

Str.	Scientific Name
G	Pasture Grasses *
G	Baloskion tetraphylla
G	Baumea juncea, rubiginosa
G	Juncus usitatus
G	Cyperus spp.
G	Lepironia articulata
G	Selaginella uliginosa
G	Gonocarpus micranthus
G	Gahnia clarkei
G	Blechnum indicum
G	Drosera spatulata
G	Xyris complanata
G	Wahlenbergia gracilis
G	Lomandra hystrix
G	Dianella caerulea
G	Liparophyllum exaltatum
G	Centella asiatica
G	Viola hederacea
G	Fimbristylis dichotoma
G	Imperata cylindrica

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Previously establish Pasture Grassland well managed and transforming to wetland vegetation under natural regeneration efforts. Dry underfoot at the time of inspection. Generally in good condition and regenerating nicely, although there's some patches of pasture grass present, in particularly along the western edge of the plot which requires treatment. Very wet underfoot at the time of survey (>50mm rainfall in the previous week).
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 4: Swamp Sclerophyll Forest.



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



SW corner @ om



SW corner @ om



Centre east @ 25m



Centre west @ 25m



Centre north @ 25m



Centre south @ 25m



NW corner @ 50m



NW corner @ 50m



NE corner @ 50m



NE corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N/A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses present although not dominant, several stems of Easter Cassia, Groundsel, and Camphor Laurel sapling.

What species?

Andropogon virginicus, Paspalum, Asparagus Fern, Groundsel, Camphor Laurel, Thickhead and Easter Cassia.

What management was undertaken to eradicate these weeds?

To be removed/treated.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 8-12m
- Shrub species: 0.5-5m
- ground covers: <1.5m

What are the dominant species within each layer?

- Tree: Banskia integrifolia
- Shrub: Mixed (i.e. Paperbark, Leptospermum spp, Acacia, Banskia etc.)
- ground covers: Pteridium esculentatum +/- Lomandra spp.

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Raptor (i.e. Brahminy Kite)

Small tree and ground birds (i.e. finches and fairy wrens)

Omnivore birds (i.e. crow)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters, noisy friarbird, noisy minor, yellow robin)

Reptiles (i.e. skinks)

Mammals (i.e. Swamp Wallaby)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

N/A

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Natural regeneration and plantings establishing nicely, although exotic grass and some Easter Cassia, Groundsel and Camphor Laurel are present and require removal at next weed control round.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 149. In east of paddock within existing Banksia Woodland @ 558050, 6831124		**Monitoring Site ID:** P9
Type of on-grounds: approved for assisted natural regeneration to Coastal Banksia Woodland/ Open Forest Habitat	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 12-08-25	
Overall comments on site condition: Good beginnings of natural regeneration with a variety of native flora species encountered. Where canopy trees are grouped providing shade a good leaf litter layer is present. Previous pasture largely controlled and now revegetated, although there's still some pasture grass and herbaceous weeds. Several trees damaged/fallen since previous inspection, likely from Cyclone Alfred.		
Has the condition of the site changed since last assessment? YES. Native regeneration increasing in density and height. Minor increase in pasture grass and weeds since previous inspection/treatment.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	85	Fragmented Banksia Woodland/ Open Forest on sandy substrate. Good regeneration, particularly where canopy cover exists. Open areas still contain a variety of native forbs/groundcovers. Revegetation zone with some natural recruitment. Substantial replacement of previous pasture.	40-45%	Mid-dense establishing native flora species with revegetation also performed.	Pasture grasses	Native regeneration Increasing in height and coverage.		Ongoing routine management of pasture grasses.
B = Uncertain significant problems	15	Nominal 15% representing pasture grasses re-establishing in patches. Minor herbaceous weed coverage.	0 Juvenile phase	Dense non-native.	Pasture grasses, *Senna pendula* *Cinnamomum camphora* Groundsel Asparagus Fern	Performance criteria for weeds not achieved.		Ongoing routine management of pasture grasses. Spot control of weeds.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								92.5 %

LOCATION

Site No.	P9							**Date:**	12-08-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 149. In east of paddock within existing Banksia Woodland. Rehabilitation Zone 6										
GPS coordinates centre plot:	**Zone**	5	6	**E**	558050		**N**	6831124	**Datum:**	MGA94z56	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	8-12	M
T2	4-8	S-V
S1	0.5-5	S-M
G	0.1-1.2	S-D

Structural formation: (including height)	Coastal Banksia Woodland / Open Forest
Ecologically dominant layer:	T1

Planted natives + existing regeneration post cattle exclusion

Planted natives with natural recruitment. Some exposed sand typical to vegetation type. Weeds/grasses re-establishing slightly.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1	D	*Banksia integrifolia*
T1	A	*Melaleuca quinquenervia*
T2		*Regenerating T1 species*
T2		*Acacia sophorae*
T2		*Persoonia stradbrokensis*
T2		*Glochidion sumatranum*
T2		*Duboisia myoporoides*
S		*Regenerating T1 and T2 species*
S		*Acacia ulicifolia*
S		*Leptospermum juniperinum, L. polygalifolium*
S		*Acrotriche aggregata*
S		*Notelaea longifolia*
S		*Austromyrtus dulcis*
S		*Monotoca elliptica*
S		*Elaeocarpus reticulatus*
S		*Melicope elleryana*
S		*Lophostemon suaveolens*
S		*Senna pendula**
S		*Banksia robor*
S		*Cupaniopsis anacardioides*
S		*Callistemon salignus*
S		*Syzygium oleosum*
S		*Acronychia imperforata*
S		*Eucalyptus robusta*
S		*Macaranga tanarius*

Str.	Scientific Name
G	Pasture Grasses *
G	*Pomax umbellata*
G	*Hibbertia scandens*
G	*Baloskion tetraphylla*
G	*Cyperus spp.*
G	*Dianella caerulea*
G	*Geitonoplesium cymosum*
G	*Gonocarpus micranthus*
G	*Gahnia clarkei*
G	*Lomandra filiformis*
G	*Parsonsia straminae*
G	*Pteridium esculentum*
G	*Hatpins*
G	*Marsdenia rostrata*
G	*Smilax australis*
G	*Goodenia rotundifolia*
G	*Centella asiatica*
G	*Wahlenbergia gracilis*
G	*Drosera spatulata*
G	*Pomax umbellata*
G	*Imperata cylindrica*
G	*Lomandra hystrix*
G	*Stephania japonica*
G	*Entolasia stricta*
G	*Commelina cyanea*
G	*Cinnamomum camphora**
G	*Asparagus aethiopicus **
G	*Baccharis halimifolia **
G	*Crassocephalum crepidioides **

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Banksia woodland within former grazing paddock on sandy substrate. Good beginnings of natural regeneration with a variety of native flora species encountered and a large number of native saplings observed. Where canopy trees are grouped providing shade a good leaf litter layer is present. Previous pasture largely controlled, and site now revegetated, although there's a minor increase in pasture grass presence since the previous inspection. Several other weeds such as Asparagus Fern, Groundsel, Thickhead and Easter Cassia also noted, although scarce. Increase in density and height of regenerating native flora noticeable since the previous inspection. Several trees damaged/fallen since previous inspection, likely as a result from Cyclone Alfred.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6. Coastal Banksia Woodland/Open Forest to be managed by assisted natural regeneration.



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



NE corner @ om



NE corner @ om



Centre east @ 25m



Centre west @ 25m



Centre north @ 25m



Centre south @ 25m



NW corner @ 50m



NW corner @ 50m



SW corner @ 50m



SW corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Minor weed intrusion requiring treatment



Fallen Banksia (likely from Cyclone Alfred)

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Exotic grasses dominant in areas.

What species?

Mainly Andropogon virginicus, Axonopus spp. and Paspalum.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 1.5-6
- Shrub species: 0.5-2m
- ground covers: <1.2m

What are the dominant species within each layer?

- Tree: Eucalyptus spp.
- Shrub: Eucalyptus spp. +/- Melaleuca quinquenervia
- ground covers: Pasture grasses and Bunchy Sedge

Have you noticed any new native plant species since the last inspection?

Hardenbergia violacea

If yes name the species or take a photograph

Yes.

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, wrens, masked lapwing)

Mammals (i.e. bandicoot diggings)

Amphibians (i.e. crinia tinnula, crinia signifera, litoria fallax)

Reptiles (i.e. skinks)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? Yes.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? Yes.

Tree, Small Tree & Shrub Diversity? N/A. Rehab Zone 1 is exempt from the diversity performance requirement.

Groundcover Coverage? N/A. Rehab Zone 1 is exempt from the groundcover coverage requirement.

General Coverage/Success? Yes.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

Weed removal to be undertaken for pasture grass with in-fill plantings in bare/grass dominant areas where canopy coverage isn't being met. These occur predominantly west of Plot 10, proximate the natural swale/drain.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 146. South of Frog Pond. @ 556907, 6831745		**Monitoring Site ID:** P10
Type of on-grounds: approved for assisted natural regeneration with reconstruction to Freshwater Wetland habitat	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 13-08-25	
Overall comments on site condition: Previous pasture grassland revegetated with freshwater wetland module, although there's an increase in exotic grass coverage since previous inspection noted. Plantings establishing nicely, in particularly Eucalypts. Several areas external to the plot require additional plantings to meet canopy coverage performance criteria.		
Has the condition of the site changed since last assessment? YES. Plantings and natural regeneration establishing and increasing in height, although exotic grasses are dominant throughout the ground layer.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	60	Revegetation zone with some natural recruitment. Substantial replacement of previous pasture.	0 Juvenile phase	Planted species, mostly rushes and sedge.	Pasture grass	Several species mostly planted with some regeneration (refer preceding page) Increasing in height and coverage. Some loss of planted trees including 'topped' specimens from wallaby graze.		Ongoing routine management of pasture grasses. Monitoring and routine follow up weed control where needed. Supplementary/replacement plantings required once grass/weeds are treated. Refit several tree guards which have fallen.
B = Uncertain significant problems	40	Nominal 40% representing pasture grasses re-establishing (dominant). Limited occurrence of waxweed, billygoat weed, thickhead, but monitoring and routine control required due to proficiency to spread within wetlands.	0 Juvenile phase	Planted species, mostly rushes and sedge with minor pasture regeneration and sporadic waxweed, billygoat weed and thickhead.	Pasture grasses, Columbian waxweed, Billygoat weed, Thickhead	Several species mostly planted with some regeneration (refer preceding page) Performance criteria for weeds and canopy coverage not achieved.		Ongoing routine management of pasture grasses. Spot control of waxweed, billygoat weed, thickhead and pasture grasses. Supplementary/replacement plantings required once grass/weeds are controlled. Canopy coverage not achieved within sections of the Rehab Zone. Plantings required. Bunchy Sedge smothering several plantings.

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
								Repair/install protection fencing. Repair/refit several tree guards.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								80 %

LOCATION

Site No.	P10	**Date:**	12-08-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 146. South of Frog Pond. Rehabilitation Zone 1		

GPS coordinates centre plot:	**Zone**	5	6	**E**	556907	**N**	6831745	**Datum:**	MGA94256

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)	
E	-	-	
T1	-	-	
T2	1-6	S	Planted Eucalypts
S1	0.25-2	V-S	Mostly planted natives
G	0.1-1.2	S	Planted and recruited natives
G	0.05-1.2	S	Pasture grass and planted wetland natives

Structural formation: (including height)	Closed Pasture Grassland
Ecologically dominant layer:	G

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1		-
T1		-
T2		-
T2		-
S		*Persoonia stradbrokensis*
S		*Callistemon salignus*
S		*Eucalyptus robusta*
S		*Melaleuca quinquenervia*
S		*Casuarina glauca*
S		*Acacia sophorae*
S		*Lophostemon suaveolens*
S		*Eucalyptus tereticornis*
S		*Banksia robur*
G		Viola hederacea
G		Drosera spatulata

Str.	Scientific Name
G	Pasture Grasses
G	*Baloskion tetraphylla*
G	*Centella asiatica*
G	*Cyperus* spp.
G	*Liparophyllum exaltatum*
G	*Blechnum indicum*
G	*Hibbertia scandens*
G	*Fimbristylis ferruginea*
G	*Cuphea carthagenensis**
G	*Juncus usitatus*
G	*Philydrum lanuginosum*
G	*Histiopteris incisa*
G	*Carex appressa*
G	*Baumea juncea/rubiginsoa*
G	*Pteridium esculentum*
G	*Ageratum houstianum**
G	*Leptospermum spp.*
G	*Lobelia stenophylla*
G	*Pultenea villosa*
G	*Xyris complanata*
G	*Fimbristylis polytrichoides*
G	*Hardenbergia violacea*
G	*Crassocephalum crepidioides**

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Previous low to mid-high, closed grassland now managed as a revegetation zone. Planted native species and retained regenerating species becoming established. Exotic grasses re-establishing and dominating the ground layer in areas. Several plants exhibit wallaby grazing. Fencing at interface requiring minor repairs. Several tree guards require refitting. External to the plot, areas of the Rehab Zone failing to meet canopy coverage and weed coverage performance criteria. Several planted Eucalypts/Lophostemons are above 6m in height and 20cm dbh.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 1: Freshwater Wetland



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



NE corner @ om



NE corner @ om



Centre north @ 25m



Centre south @ 25m



Centre east @ 25m



Centre west @ 25m



SW corner @ 50m



SW corner @ 50m



NW corner @ 50m



NW corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Dead planting requiring replacement



Protection Fencing Requiring Repairs in Sections



Eucalypt plantings increasing in height and coverage





New Species (*Hardenbergia violacea*) Observed	Areas of Rehab Zone Failing to Meet Weed Coverage and Canopy Coverage Performance Criteria

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Minor areas of Paspalum within northern areas of the plot. An Umbrella Tree and Coral Berry sapling also present.

What species?

Paspalum spp. Ardisia crenata and Schefflera actinophylla

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 14-20m
- Shrub species: 0.5-3m
- ground covers: <1.2m

Area already well established.

What are the dominant species within each layer?

- Tree: Lophostemon confertus
- Shrub: Melaleuca quinquenervia
- ground covers: Gahnia clarkei

Have you noticed any new native plant species since the last inspection?

Yes.

If yes name the species or take a photograph

Centella asiatica

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. fairy wrens and brush turkey)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters, noisy friarbird, golden whistler)

Mammals (i.e. swamp wallaby)

Reptiles (i.e. skinks and red-bellied black snake)

Amphibians (i.e. litoria fallax)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In excellent condition with minor areas of Paspalum present which require routine weed control. A large Umbrella Tree and Coral Berry sapling also requires treatment during next weed control round.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147. Mapped Brushbox area. @ 557828, 6831140		**Monitoring Site ID:** P11
Type of on-grounds: Approved for assisted natural regeneration	**Years since site commenced:** 3	**When was this site last assessed?** 03-03-25
Current assessment conducted by: TR	**Date of current assessment:** 12-08-25	
Overall comments on site condition: Established Brushbox Community. Fenced off and removed from construction zone. In excellent condition with minor weed regenerating (limited to Paspalum, a Umbrella Tree and Coral Berry sapling). Very wet at the time of the survey (>50mm rain in the previous week).		
Has the condition of the site changed since last assessment? YES. Remains in excellent condition although very minor weed intrusion noted.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	99	In excellent condition with no weeds.	80	Dense	N/A	N/A	-	Nil. Monitoring only.
B = Uncertain significant problems	1	Weeds previously treated. Minor areas of Paspalum present. One Umbrella Tree and Coral Berry sapling present.	80	Sparse	Paspalum	N/A	-	Routine follow up weed control of Paspalum, Coral berry and Umbrella Tree
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								99.5 %

LOCATION

Site No.	P11							**Date:**	12-08-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. Within mapped Brushbox Foest. Rehabilitation Zone 6										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557828		**N**	6831140	**Datum:**	MGA94z56	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	14-20	D
T2	5-14	V
S1	0.5-3	M-S
G	0.1-1.2	M-D

Structural formation: (including height)	Tall to Very Tall Open Forest
Ecologically dominant layer:	T1

Dense growth of native ferns, sedges, rushes. Thick organic leaf layer and coarse woody debris present.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1	D	*Lophostemon confertus*
T1	A	*Melaleuca quinquenervia*
T1	S	*Lophostemon suaveolens*
T1	S	*Melicope elleryana*
T2		*Elaeocarpus reticulatus*
T2		*Endiandra sieberi*
T2		*Syzygium oleosum*
T2		*Schefflera actinophylla**
T2		*Platycerium superbum*
S1		*Regenerating T1/T2*
S1		*Melastoma affine*
S1		*Leptospermum spp.*
S1		*Austromyrtus dulcis*
S1		*Homalanthus populifolius*
S1		*Banksia integrifolia*

Str.	Scientific Name
G	*Paspalum spp. **
G	*Gahnia clarkei*
G	*Banksia integrifolia*
G	*Blechnum indicum*
G	*Smilax australis*
G	*Selaginella uliginosa*
G	*Pterdium esculentum*
G	*Calochlaena dubia*
G	*Marsdenia rostrata*
G	*Hibbertia scandens*
G	*Lygodium microphyllum*
G	*Ardisia crenata**
G	Centella asiatica

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Brushbox forest. Fenced off from construction zone. In excellent condition with minor areas of Paspalum present. Large Camphor Laurels previously treated and have since died and starting to break apart. Very wet underfoot due to recent rain (>50mm in the previous week).
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6: Existing Vegetation



Centreline @ 0m



Centreline @ 50m



Northeast corner @ 0m



Northeast corner @ 0m



Northwest corner @ 0m



Northwest corner @ 0m



Centre north @ 25m



Centre south @ 25m



Centre west @ 25m



Centre east @ 25m



Southwest corner @ 50m



Southwest corner @ 50m



Southeast corner @ 50m



Southeast corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Previously treated Camphor Laural breaking apart

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes.

What species?

Paspalum and Easter Cassia.

What management was undertaken to eradicate these weeds?

To be treated.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 8-14m
- Shrub species: 0.5-3m
- ground covers: <1.5m

The area is already well established.

What are the dominant species within each layer?

- Tree: Casuarina gluaca
- Shrub: Melaleuca quinquenervia
- ground covers: Pteridium esculentatum +/- Gahnia

Have you noticed any new native plant species since the last inspection?

No

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, pardalote and silvereye)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters, whipbird, rainbow bee-eater)

Reptiles (i.e. skinks and yellow-faced whip snake)

Mammals (i.e. swamp wallaby)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No*

*Whilst there are areas exceeding the groundcover coverage performance criteria, these occur as Swamp Oak pine needles which are typical to Swamp Forest communities.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In good condition with minor areas of Paspalum and some saplings of Easter Cassia present which requires routine weed control. Previously treated Camphor Laurel has died and falling apart.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

PROJECT DESCRIPTION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147. Mapped Swamp Oak area proximate Belongil Creek. @ 557927, 6830883		**Monitoring Site ID:** P12
Type of on-grounds: Approved for assisted natural regeneration	**Years since site commenced:** 3	**When was this site last assessed?** 03-03-25
Current assessment conducted by: TR	**Date of current assessment:** 18-08-25	
Overall comments on site condition: Established Swamp Oak Community generally in good condition. Minor intrusion of pasture grasses and weeds, although well below the performance criteria.		
Has the condition of the site changed since last assessment? YES. Some areas of dense Bracken has died-off since the previous inspection, likely due to the frequent ponding events in recent months (considered to be all natural). Several trees were damaged and/or fallen since previous inspection, likely from Cyclone Alfred.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	97	Mostly dense native ground cover. Treated camphor laurel trees have been treated and died.	70	Dense	individual camphor laurel trees	Treated camphor laurel dieback. Increase in native groundcover density noted.	-	Routine monitoring and weed control.
B = Uncertain significant problems	3	Paspalum previous treated and left as mulch although some minor patches still remain and require treatment. Easter Cassia saplings requiring treatment during next round of weed control.	70	Dense	Pasture grasses, Easter Cassia	N/A	-	Treatment of pasture grasses and Easter Cassia required. Routine monitoring of native ground cover regeneration within treated areas.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								98.5 %

LOCATION

Site No.	P12							**Date:**	18-08-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. Within mapped Swamp Oak Forest proximate Belongil Creek. Rehabilitation Zone 6										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557927	**N**	6830883	**Datum:**	MGA94z56		

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	12-16	D
T2	3-12	S
S1	0.75-3	S
G	0.1-1.5	D

Structural formation: (including height)	Mid-high to Tall Open Forest
Ecologically dominant layer:	T1 - G

Dense growth of native ferns, sedges, rushes. Thick organic leaf layer and coarse woody debris present including casuarina needles.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1	D	*Casuarina glauca*
T1	A	*Melaleuca quinquenervia*
T1	S	*Melicope elleryana*
T1	S	*Cinnamomum camphora [treated/dead]*
T1		*Regenerating T1 species*
T2		*Acacia melanoxylon*
T2		*Cupaniopsis anacardioides*
T2		*Acacia melanoxylon*
T2		*Cupaniopsis anacardioides*
S1		*Breynia oblongifolia*
S1		*Regenerating T1/T2 species*
G		*Senna pendula**

Str.	Scientific Name
G	*Pteridium esculentum*
G	*Calochlaena dubia*
G	Exotic Grasses (*Paspalum spp)**
G	*Dianella caerulea*
G	*Blechnum indicum*
G	*Marsdenia rostrata*
G	*Smilax australis*
G	*Stephania japonica*
G	*Gahnia clarkei*
G	*Asplenium australasicum*
G	*Parsonsia straminea*
G	*Platycerium superbum*
G	*Commelina cyanea*
G	*Baumea juncea*
G	Lygodium microphyllum
G	Rubus moluccanus

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary estuarine alluvium overlain by and/or mixed with Quaternary (Pleistocene) sands. The sands are generally aeolian, originating from the adjacent beach ridge systems.
Field observation and notes:	Swamp Oak forest. Treatment has previously occurred to camphor laurels which have since died and starting to fall apart. Groundcover coverage decreased in some areas since last inspection, although this is likely from frequent ponding events in recent months which have likely killed of some of the Bracken (all natural). Some minor Paspalum and Easter Cassia regeneration noted although still below the performance criteria (monitor). Several trees fallen/damaged, likely from Cyclone Alfred.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6: Existing Vegetation



Centreline @ om



Centreline @ 50m



NW corner @ om



NW corner @ om



NE corner @ om



NE corner @ om



Centreline south @ 25m



Centreline north @ 25m



Centreline east @ 25m



Centreline west @ 25m



SW Corner @ 50m



SW Corner @ 50m



SE Corner @ 50m



SE Corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Fallen tree, likely from Cyclone Alfred

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes. Small patches of Paspalum present.

What species?

Paspalum spp.

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 14-20m
- Shrub species: 0.5-4m
- ground covers: <1.5m

Area already well established.

What are the dominant species within each layer?

- Tree: Melaleuca quinquenervia
- Shrub: Melaleuca quinquenervia
- ground covers: Eleocharis equisetina +/- Gahnia clarkei

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. fairy wrens, finches and silvereye)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters, rainbow bee-eater and spangled drongo)

Reptiles (i.e. skinks)

Amphibians (i.e. Crinia signifera)

Mammals (i.e. swamp wallaby)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In good condition with minor areas of Paspalum present which requires routine weed control.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147. Mapped Paperbark Forest area. @ 557731, 6831194		**Monitoring Site ID:** P13
Type of on-grounds: Approved for assisted natural regeneration	**Years since site commenced:** 3	**When was this site last assessed?** 03-03-25
Current assessment conducted by: TR	**Date of current assessment:** 08-09-25	
Overall comments on site condition: Established Paperbark Swamp Community. Fenced off and removed from construction zone. In excellent condition with minor weed intrusion (Paspalum).		
Has the condition of the site changed since last assessment? Yes. Area remains in excellent condition. Very wet underfoot from recent rain events.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	97	Undisturbed area well removed from construction zone.	70	Moderate - Dense	None	N/A	-	Nil. Monitoring only.
B = Uncertain significant problems	3	Minor presence of exotic grass	70	Moderate - Dense	Paspalum	N/A	-	Routine weed control of exotic grass presence.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								98.5 %

LOCATION

Site No.	P13	**Date:**	08-09-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. Within mapped Paperbark Swamp Forest. Rehabilitation Zone 6		

GPS coordinates centre plot:	**Zone**	5	6	**E**	557731	**N**	6831194	**Datum:**	MGA94z56

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	14-20	D
T2	4-14	V
S1	0.5-4	V
G	0.1-1.5	M-D

Structural formation: (including height)	Mid-high to Tall Forest
Ecologically dominant layer:	T1

Dense growth of native ferns, sedges, rushes. Thick organic leaf layer and coarse woody debris present. Paspalum in parts.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1/T2	D	*Melaleuca quinquenervia*
T2	S	*Melicope elleryana*
S1		*Regenerating T1/T2 species*
G		*Sphagnum spp.*
G		*Histiopteris incisa*

Str.	Scientific Name
G	*Blechnum indicum*
G	*Baumea rubignosa*
G	*Juncus usitatus*
G	*Paspalum spp.**
G	*Lygodium microphyllum*
G	*Marsdenia rostrata*
G	*Pteridium esculentum*
G	*Calochlaena dubia*
G	*Gahnia clarkeri*
G	*Lepironia articulata*
G	*Phragmites australis*
G	*Parsonsia straminea*
G	*Commelina cyanea*
G	*Elaeocharis equisetina*
G	*Baloskion tetraphyllum*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Paperbark swamp forest. Historically fenced off from cattle. In excellent condition with very minor weed presence (Paspalum). Very wet and muddy from recent rains.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6: Existing Vegetation



Centreline @ om



Centreline @ 50m



Northeast corner @ om



Northeast corner @ om



Southeast corner @ om



Southeast corner @ om



Centreline west @ 25m



Centreline east @ 25m



Centre north @ 25m



Centre south @ 25m



Northwest corner @ 50m



Northwest corner @ 50m



Southwest corner @ 50m



Southwest corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Paspalum browned off

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes.

What species?

Minor areas of Easter Cassia and Paspalum spp.

What management was undertaken to eradicate these weeds?

N.A

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 10-15m
- Shrub species: 1.5-4m
- ground covers: <1.5m

Area already well-established.

What are the dominant species within each layer?

- Tree: Melaleuca quinquenervia
- Shrub: Acacia spp.
- ground covers: Baloskion tetraphylla +/- Blechnum indicum

Have you noticed any new native plant species since the last inspection?

No

If yes name the species or take a photograph

N/A

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. finches, wrens, and pardalote)

Reptiles (i.e. skinks and common tree snake)

Nectivore birds (i.e. honeyeaters, friarbirds)

Amphibians (i.e. eastern sedge-frog and wallum froglet)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In excellent condition. Removal of isolated stems of easter cassia and small patches of paspalum required during routine weed control regime.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 147. Mapped Paperbark Swamp Forest area off Melaleuca Drive. @ 557037, 6831497		**Monitoring Site ID:** P14
Type of on-grounds: Approved for assisted natural regeneration	**Years since site commenced:** 3	**When was this site last assessed?** 28-02-25
Current assessment conducted by: TR	**Date of current assessment:** 12-08-25	
Overall comments on site condition: Established Paperbark Swamp Forest Community. Fenced off and buffered from construction. Excellent condition. Very minor weed intrusion. Very wet at time of inspection.		
Has the condition of the site changed since last assessment? YES. Remains in excellent condition although small increase in paspalum coverage noticed.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	99	Undisturbed area well removed from construction zone.	70	Dense	-	-	-	Nil. Monitoring only.
B = Uncertain significant problems	1	Very minor weed intrusion.	-	-	Isolated stems of easter cassia and a small patches of paspalum present	Some dead trees present in south east. No evidence of anything other than natural dieback. Isolated stems of easter cassia and a small patches of paspalum present	-	Remove stems of easter cassia and treat patches of paspalum.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								99.5 %

LOCATION

Site No.	P14							**Date:**	12-08-25		
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT										
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 147. Within mapped Paperbark Swamp Forest off Melaleuca Drive. Rehabilitation Zone 6										
GPS coordinates centre plot:	**Zone**	5	6	**E**	557037		**N**	6831497	**Datum:**	MGA94256	

VEGETATION STRUCTURE

Stratum	Est. Median Height	Est. cover density (D,M,S,V)
E	-	-
T1	12-15	M
T2	4-12	S
S1	0.5-4	V
G	0.1-1.5	D

Structural formation: (including height)	Mid-high to Tall Open Forest
Ecologically dominant layer:	T1

Dense growth of native ferns, sedges, rushes. Thick organic leaf layer and coarse woody debris present.

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
E		-
T1	D	*Melaleuca quinquenervia*
T1	S	*Parsonsia straminea*
T2	S	*Elaeocarpus reticulatus*
T2	S	*Melicope elleryana*
T2	S	*Acacia spp.*
S		*Regenerating T1/T2 species.*
S	S	*Senna pendula**
S	S	*Myrsine howittiana*

Str.	Scientific Name
G	*Lobelia purpurascens*
G	*Baloskion tetraphylla*
G	*Gahnia clarkei*
G	*Blechnum indicum*
G	*Hibbertia scandens*
G	*Selaginella uliginosa*
G	*Marsdenia rostrata*
G	*Baumea spp*
G	*Parsonsia straminea*
G	Paspalum spp.*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary estuarine alluvium overlain by and/or mixed with Quaternary (Pleistocene) sands. The sands are generally aeolian, originating from the adjacent beach ridge systems.
Field observation and notes:	Paperbark Swamp forest. Fenced off and separated from construction footprint. Excellent condition with very minor weed intrusion. Several trees damaged/fallen since last inspection, likely from Cyclone Alfred. Very wet underfoot (>50mm of rainfall in the previous week).
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6: Existing Vegetation



Centreline @ om



Centreline @ 50m



NW Corner @ om



NW Corner @ om



SW Corner @ om



SW Corner @ om



Centre North @ 25m



Centre North @ 25m



SE Corner @ 50m



SE Corner @ 50m



Centre West @ 25m



Centre East @ 25m



NE Corner @ 50m



NE Corner @ 50m



Ground centre @ 5m



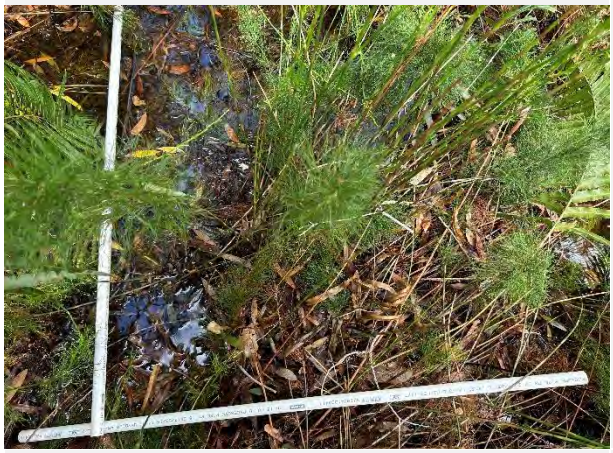
Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m



Large Blueberry Ash fallen (likely from Cyclone Alfred)

FORM A: ROUTINE REHABILITATION MONITORING SHEET

<u>General Management</u>

Has there been a fire since the last inspection?

No.

Do the bushfire trails or adjacent pasture areas require slashing or maintenance to reduce fire risk?

No.

Is there evidence of rubbish dumping within the rehabilitation zone?

No.

Is there evidence of plant theft within the rehabilitation zone?

No.

Does it appear that the rehabilitation zone has been utilized for stockpiling, vehicle parking, building waste dumping, cattle grazing or person traffic?

No.

If yes, acknowledge below what works were undertaken to rectify/restore and the date

N.A

<u>Weeds</u>

Have any areas of weeds re- established within the rehabilitation zones since the last inspection?

Yes

What species?

Ardisia crenata

What management was undertaken to eradicate these weeds?

To be removed.

If management was undertaken acknowledge that such was performed in accordance with the approved vegetation management plan.

<u>Vegetation regeneration</u> add additional page if necessary

Natural regeneration is occurring in (height range estimate):

- Tree species: 15-17m
- Shrub species: 1.5-3m
- ground covers: <1.5m

Area already well-established.

What are the dominant species within each layer?

- Tree: Melaleuca quinquenervia
- Shrub: Variety although regenerating M. quinquenervia most dominant.
- ground covers: Gahnia clarkei

Have you noticed any new native plant species since the last inspection?

No.

If yes name the species or take a photograph

N/A.

Acknowledge that the required routine photographs have been taken within the rehabilitation zones

Yes.

<u>Biodiversity</u>

Have you spotted native fauna within the rehabilitation zone during inspection?

If yes, what types?

Small tree and ground birds (i.e. fairy wrens, finches and spotted pardalote)

Nectivore/insectivore/frugivore birds (i.e. honeyeaters and whipbird)

Reptiles (i.e. skinks)

Mammals (i.e. swamp wallaby)

<u>Modifications</u>

Have there been any structural additions (eg. new tracks, fences etc) to the rehabilitation zones since the last visit?

No.

What actions were undertaken to remove any illegal modifications?

N/A

Condition of fences

- Good
- Need minor repair
- Poor (need replacement)

Are any of the following performance criteria exceeded (refer Section 5.3 of approved VMP)?

Declared Weeds? No.

Extent of other Weeds? No.

Survival Rate of Plants? No.

Condition of Plants? No.

Canopy Coverage? No.

Tree, Small Tree & Shrub Diversity? No.

Groundcover Coverage? No.

General Coverage/Success? No.

If yes, what corrective action was performed (i.e. weed recolonization was evident so routine management was performed; garden waste dumping was noted and removed, assisted regeneration was deemed unsuccessful and revegetation of the relevant module was undertaken, plant showed drought stress and so watering was undertaken, plant was dead so a replacement plant was pocket planted, canopy plant coverage was not achieved so relevant pioneer plants were pocket planted).

In excellent condition with no current corrective actions required. Several Coral Berry plants noted which require treatment during the next round of routine weed control.

MONITORING FORM B-ASSESSING REHABILITATION CONDITION

Project name: West Byron Harvest Estate		**Project ID:** 7036
Site location centrepoint (MGAz56): Future Lot 149. North of fenced of paddock with drainage channel @ 558057, 6831220		**Monitoring Site ID:** P15
Type of on-grounds: approved for assisted natural regeneration to maintain existing Mid-high to Tall Open Dry Heath/Paperbark Forest	**Years since site commenced:** 3	**When was this site last assessed?** 03-03-25
Current assessment conducted by: TR	**Date of current assessment:** 09-09-25	
Overall comments on site condition: Paperbark and heath open forest on sand. In excellent condition. Regeneration of T1 species evident with excellent ground cover and native diversity in the lower strata.		
Has the condition of the site changed since last assessment? NO. Remains in pristine condition, although several saplings of Coral Berry noted.		

DESCRIPTION OF SITE CONDITION *Complete table as per monitoring schedule, or if conditions have changed since last assessment.*

Rating/ zone	% of monitoring plot	Location and factors affecting outcomes	Canopy cover (%)	Ground cover	Problem weeds	Tree survival or Recruitment	Other comments	Suggested maintenance or action
A = OK on track towards target	99	Mid-high to Tall Open Dry Heath/Paperbark Forest in excellent condition. Currently fenced off from surrounding pasture Very minor weed intrusion.	50-60%	Excellent. Dense native flora cover.	-	-	-	Nil. Monitoring only.
B = Uncertain significant problems	1	Very minor weed intrusion.	-	-	Isolated stems of Coral Berry	Several stems of Coral Berry present.	-	Treat several Coral Berry stems.
C = Poor major problems, likely to fail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Condition Score (ranges from 0-100%) *Multiply percentage of site occupied by each zone (A, B or C), by the condition rating for each zone (A = 1; B = 0.5; C = 0), and add the products: e.g. (70% x 1) + (20% x 0.5) + (10% x 0) = 80%*								99.5 %

LOCATION

Site No.	P15	**Date:**	08-09-25
Purpose	VEGETATION/REHABILITATION MONITORING 50m x 20m PLOT		
Location:	Retained Habitat and Rehabilitation Zones within Future Lot 149. North of fenced of paddock with drainage channel. Mid-high to Tall Paperbark Forest with Heath species. Rehabilitation Zone 6		

GPS coordinates centre plot:	**Zone**	5	6	**E**	558057	**N**	6831220	**Datum:**	MGA94256

VEGETATION STRUCTURE

Stratum	Est. Median Height (m)	Est. cover density (D,M,S,V)
E	15-17	V
T1	8-14	M-D
T2	3-7	M
S	1.5-3	M-S
G	0-2	D

Structural formation: (including height)	Forest-Open Forest
Ecologically dominant layer:	T1

PLANT SPECIES

Relative dominance for EDL *d* – dominant; *c* – codominant; *a* – associated; *s* – suppressed

Str.	Rel. dom	Scientific Name
T1	D	*Melaleuca quinquenervia*
E	S	*Eucalyptus robusta [1]*
T1	D	*Melaleuca quinquenervia*
T1	S	*Duboisia myoporoides*
T1	S	*Lophostemon suaveolens*
T1	S	*Lophostemon confertus*
T1	S	*Elaeacarpus reticulatus*
T2		*Regenerating T1 species [excluding brushbox]*
T2		*Cryptocarya microneura*
T2		*Melicope elleryana*
T2		*Nematolepis squamea*
S		*Regenerating T1 and T2 species*
S		*Acrotriche aggregata*
S		*Austromyrtus dulcis*
S		*Leptospermum polygalifolium*
S		*Syzygium oleosum*
S		*Melastoma affine*
S		*Archontophoenix cunninghamiana*
S		*Acmena smithii*
S		*Acacia melanoxylon (juvenile)*
S		*Myrsine howittiana*

Str.	Scientific Name
G	*Gahnia clarkei*
G	*Baloskion tetraphylla*
G	*Pomax umbellata*
G	*Blechnum indicum*
G	*Pomax umbellata*
G	*Lomandra longifolia*
G	*Lygodium microphyllum*
G	*Calochlaena dubia*
G	*Histiopteris incisa*
G	*Pteridium esculentum*
G	*Liparophyllum exaltatum*
G	*Hibbertia scandens*
G	*Smilax australis*
G	*Marsdenia rostrata*
G	*Parsonsia straminae*
G	*Smilax glyciphylla*
G	*Pandorea pandorana*
G	*Ardisia crenata**
S	*Acacia sophorae*
G	*Drosera spatulata*
S	*Syzygium luehmannii*

OTHER NOTES

Geology/soil Landscape Mapping	Quaternary (Pleistocene) beach and dune sand.
Field observation and notes:	Paperbark and heath open forest on sand. In excellent condition. Regeneration of T1 species evident with excellent ground cover and native diversity in the lower strata. Several small stems of Coral Berry noted.
Vegetation Community Type (existing or proposed through rehabilitation) per Planit, 2020)	Approved Rehabilitation Zone 6. Existing Mid-high to Tall Open Dry Heath/Paperbark Forest to be managed by assisted natural regeneration.



Centreline @ om



Centreline @ 50m



SE corner @ om



SE corner @ om



NE corner @ om



NE corner @ om



Centreline east @ 25m



Centreline west @ 25m



Centreline north @ 25m



Centreline south @ 25m



NW Corner @ 50m



NW Corner @ 50m



SW Corner @ 50m



SW Corner @ 50m



Ground centre @ 5m



Ground centre @ 15m



Ground centre @ 25m



Ground centre @ 35m



Ground centre @ 45m

Appendix 3 – Work Logs of All Monitoring / Maintenance / Chemical Application (and Corrective Action Where Required) Activities Performed by the Appointed Landscape Contractor / Bush Regenerator (Boyds Bay Group) Between September 2024 and August 2025

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 08:37 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
9/10/2024 at 11:37 am

Uploaded by
Bo Walton

Upload date
9/10/2024 at 11:41 am

File name
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Album
Maintenance



Description

Taken date
9/10/2024 at 09:35 am

Uploaded by
Bo Walton

Upload date
9/10/2024 at 09:39 am

File name
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Maintenance



Description

Taken date
9/10/2024 at 09:35 am

Uploaded by
Bo Walton

Upload date
9/10/2024 at 09:39 am

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Maintenance



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Taken date
2/10/2024 at 10:52 am

Uploaded by
Bo Walton

Upload date
2/10/2024 at 10:55 am

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Album
Maintenance



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2/10/2024 at 10:51 am

Uploaded by
Bo Walton

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Maintenance



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Taken date
2/10/2024 at 10:11 am

Uploaded by
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Album
Maintenance



Description

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1/10/2024 at 02:36 pm

Uploaded by
Bo Walton

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Album
Maintenance



Description

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1/10/2024 at 01:04 pm

Uploaded by
Bo Walton

Upload date
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File name
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Album
Maintenance

Boyds Bay Group



Description

Taken date
1/10/2024 at 12:21 pm

Uploaded by
Bo Walton

Upload date
1/10/2024 at 12:25 pm

File name
IMG_2024_10_01_12_21_50_474.j...

Album
Maintenance

Inspection: Maintenance Visit & Chemical Application #23

32/34	7	0	13	12
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Thom Durey on 10/03/24
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Bo Walton
Linked Drawings			
Description	Spot spraying weeds including whiskey grass, cuphea, fleabane and various other exotic annuals and grasses		
Attachments	IMG_2024_10_01_13_04_30_925.jpg, IMG_2024_10_01_12_21_50_474.jpg		

Inspection Details

Inspection Date	Oct 1, 2024	**Due Date**	Oct 1, 2024
Point of Contact		**Responsible Contractor**	
Assignee(s)	Bo Walton		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	Zone 6,5,1 and partial zone 2 see map attached
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	Light se breeze, sunny, 30% cloud cover, 24c
1.3 Notes	No Response

Tasks

1 Neutral **4 Conforming** **0 Deficient** **3 N/A**

2.2 Snipping	No
2.3 Prunning	No
2.4 Weeding	Yes
2.5 Rubbish Removal	Yes

2.8 Other Works	Spot spraying weeds including whiskey grass, cuphea, fleabane and various other exotic annuals and grasses. Fixing rehabilitation exclusion zone fencing zone 1 and 2. Fixed or removing tree guards

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

7 Neutral **2 Conforming** **0 Deficient** **2 N/A**

4.1 Weeding	Yes
4.2 Grubbing	No
4.3 Other	Handweed
4.4 Methods Used: Monocotyledon	Foliar spray
4.5 Methods Used: Dicotyledon	Foliar spray and handweed
4.6 Glyphosate Used (ml)(1:100)	600
4.7 Metsulfuron Used (Grams)(1g:10lt)	4
4.8 Dye Used (ML) (60ml:10lt)	360
4.11 Surfactant Used (ml) (10ml:10lt)	80

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

1 Neutral **1 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	No Response
6.2 OH&S Observations, Comments, Additional Works	Jsea 31
6.3 Fire Ants Detected	No

Damage

1 Neutral **0 Conforming** **0 Deficient** **0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	Some damage tree guards. Removed or rectified

Inspection Signatures



Bo Walton signed on Oct 1, 2024 at 02:22 PM AEST

Inspection: Maintenance Visit & Chemical Application #24

32/34	8	0	19	5
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Thom Durey on 10/14/24
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Bo Walton
Linked Drawings			
Description	Fencing and tree guard repairs.		
Attachments	IMG_2024_10_02_10_52_08_568.jpg, IMG_2024_10_02_10_51_22_971.jpg, IMG_2024_10_02_10_11_13_909.jpg		

Inspection Details

Inspection Date	Oct 2, 2024	**Due Date**	Oct 2, 2024
Point of Contact		**Responsible Contractor**	
Assignee(s)	Bo Walton		

General

3 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	Natural areas
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	Light se breeze, overcast with intermittent showers
1.3 Notes	No spraying herbicides due to weather

Tasks

1 Neutral **7 Conforming** **0 Deficient** **0 N/A**

2.1 Mowing	No
2.2 Snipping	No
2.3 Prunning	No
2.4 Weeding	Yes
2.5 Rubbish Removal	Yes

2.6 Irrigation / Service	No
2.7 Water Truck	No
2.8 Other Works	Fencing repairs and tree guard removal

Fertilise	**0 Neutral**	**0 Conforming**	**0 Deficient**	**3 N/A**
Spraying	**0 Neutral**	**0 Conforming**	**0 Deficient**	**11 N/A**
Post Turf Laying Treatment	**0 Neutral**	**0 Conforming**	**0 Deficient**	**5 N/A**
Observations	**0 Neutral**	**1 Conforming**	**0 Deficient**	**0 N/A**

6.1 Flora & Fauna Observations	No Response
6.2 OH&S Observations, Comments, Additional Works	No Response
6.3 Fire Ants Detected	No

Damage	**1 Neutral**	**0 Conforming**	**0 Deficient**	**0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	Wallaby damage in some heavily Grazed areas. Tree guards repaired

Inspection Signatures



Bo Walton signed on Oct 3, 2024 at 10:15 AM AEST

Inspection: Maintenance Visit & Chemical Application #25

30/34	6	0	14	10
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Thom Durey on 10/14/24
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Bo Walton
Linked Drawings			
Description	Cut and paint woody weeds in zones mentioned in environmental report. Weeds treated include lantana, Easter cassia, coral berry and camphor laurel.		
Attachments	IMG_2024_10_09_11_37_57_770.jpg, IMG_2024_10_09_09_35_32_389.jpg, Screenshot_20241013_165050_Avenza Maps.jpg, Screenshot_20241013_165218_Avenza Maps.jpg		

Inspection Details

Inspection Date	Oct 9, 2024	**Due Date**	Oct 9, 2024
Point of Contact		**Responsible Contractor**	
Assignee(s)	Bo Walton		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	See map attached
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	Light se breeze, overcast with intermittent showers.
1.3 Notes	No Response

Tasks

1 Neutral **4 Conforming** **0 Deficient** **3 N/A**

2.1 Mowing	No
2.2 Snipping	No
2.3 Prunning	No
2.5 Rubbish Removal	No

2.8 Other Works	Cut and paint woody weeds in zones mentioned in environmental report. Weeds treated include lantana, Easter cassia, coral berry and camphor laurel.

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

6 Neutral **1 Conforming** **0 Deficient** **3 N/A**

4.1 Weeding	No
4.2 Grubbing	No Response
4.3 Other	Cut and paint, stem injection
4.4 Methods Used: Monocotyledon	Handweed
4.5 Methods Used: Dicotyledon	Cut and paint, stem injection
4.6 Glyphosate Used (ml)(1:100)	4800
4.7 Metsulfuron Used (Grams)(1g:10lt)	3
4.8 Dye Used (ML) (60ml:10lt)	30

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

0 Neutral **1 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	No Response
6.2 OH&S Observations, Comments, Additional Works	No Response
6.3 Fire Ants Detected	No

Damage

1 Neutral **0 Conforming** **0 Deficient** **0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	Minor Wallaby damage on some plants

Inspection Signatures



Bo Walton signed on Oct 13, 2024 at 04:56 PM AEDT

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 08:36 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
19/11/2024 at 08:49 am

Uploaded by
Matthew Partridge

Upload date
19/11/2024 at 08:49 am

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Album
Unclassified



Description

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Uploaded by
Matthew Partridge

Upload date
19/11/2024 at 08:48 am

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Album
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Uploaded by
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Upload date
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19/11/2024 at 08:20 am

Uploaded by
Matthew Partridge

Upload date
19/11/2024 at 08:23 am

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Uploaded by
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Upload date
19/11/2024 at 08:21 am

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Uploaded by
Matthew Partridge

Upload date
19/11/2024 at 08:01 am

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Uploaded by
Bo Walton

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Bo Walton

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Album
Maintenance

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 08:36 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

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15/11/2024 at 08:06 am

Uploaded by
Bo Walton

Upload date
15/11/2024 at 08:09 am

File name
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Album
Maintenance



Description

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8/11/2024 at 09:20 am

Uploaded by
Bo Walton

Upload date
8/11/2024 at 09:23 am

File name
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Album
Maintenance



Description

Taken date
8/11/2024 at 09:20 am

Uploaded by
Bo Walton

Upload date
8/11/2024 at 09:23 am

File name
IMG_2024_11_08_09_20_09_666.j...

Album
Maintenance

Inspection: Maintenance Visit & Chemical Application #26

33/34	2	0	22	9
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 12/10/24
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Hideya Fujiki
Linked Drawings			
Description	Maintenance spray all jute areas		
Attachments			

Inspection Details

Inspection Date	Nov 7, 2024	**Due Date**	Nov 7, 2024
Point of Contact		**Responsible Contractor**	
Assignee(s)	Hideya Fujiki		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	All jute areas
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	24.5 degrees Celsius N39km /h 83%humidity
1.3 Notes	No Response

Tasks

0 Neutral **0 Conforming** **0 Deficient** **8 N/A**

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

7 Neutral **2 Conforming** **0 Deficient** **2 N/A**

4.1 Weeding	Yes
4.2 Grubbing	No
4.4 Methods Used: Monocotyledon	Spray

4.5 Methods Used: Dicotyledon	Spray
4.6 Glyphosate Used (ml)(1:100)	1000
4.7 Metsulfuron Used (Grams)(1g:10lt)	10
4.8 Dye Used (ML) (60ml:10lt)	600
4.9 Sempra Used (Grams) (1g:10lt)	10
4.11 Surfactant Used (ml) (10ml:10lt)	200

Post Turf Laying Treatment	**0 Neutral**	**0 Conforming**	**0 Deficient**	**5 N/A**
Observations	**0 Neutral**	**0 Conforming**	**0 Deficient**	**3 N/A**
Damage	**0 Neutral**	**0 Conforming**	**0 Deficient**	**1 N/A**

Inspection Signatures



Hideya Fujiki signed on Nov 7, 2024 at 02:44 PM AEDT

Inspection: Maintenance Visit & Chemical Application #27

33/34	8	0	12	13
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 12/10/24
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Bo Walton
Linked Drawings			
Description	Spot spray paspalum and whiskey grass. Stem injection umbrella tree, camphor laurel, trumpet vine. Handweed medium size Easter cassia.		
Attachments	Screenshot_20241115_144516.jpg, Screenshot_20241115_144803.jpg, IMG_2024_11_15_11_07_22_854.jpg, IMG_2024_11_15_08_12_22_006.jpg, IMG_2024_11_15_08_06_42_188.jpg, Screenshot_20241115_124426_Avenza Maps.jpg		

Inspection Details

Inspection Date	Nov 15, 2024	**Due Date**	Nov 15, 2024
Point of Contact		**Responsible Contractor**	
Assignee(s)	Bo Walton		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	Zone 4 and 3
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	Light southerly, gusty but spraying in protected area, 26c overcast, 80% humidity
1.3 Notes	No Response

Tasks

1 Neutral **5 Conforming** **0 Deficient** **2 N/A**

2.1 Mowing	No
2.2 Snipping	No
2.3 Prunning	No
2.4 Weeding	Yes

2.5 Rubbish Removal	Yes
2.8 Other Works	Spot spray paspalum and whiskey grass. Stem injection umbrella tree, camphor laurel, trumpet vine. Handweed medium size Easter cassia. Retied protection barrier fence zone 4

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

7 Neutral **2 Conforming** **0 Deficient** **2 N/A**

4.1 Weeding	Yes
4.2 Grubbing	No
4.3 Other	Handweed
4.4 Methods Used: Monocotyledon	Foliar spray
4.5 Methods Used: Dicotyledon	Foliar spray and handweed, stem injection
4.6 Glyphosate Used (ml)(1:100)	2400
4.7 Metsulfuron Used (Grams)(1g:10lt)	20
4.8 Dye Used (ML) (60ml:10lt)	600
4.11 Surfactant Used (ml) (10ml:10lt)	200

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

2 Neutral **1 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	Trumpet vine zone 4, stem injected
6.2 OH&S Observations, Comments, Additional Works	Jsea 31
6.3 Fire Ants Detected	No

Damage

1 Neutral **0 Conforming** **0 Deficient** **0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	None

Inspection Signatures



Bo Walton signed on Nov 17, 2024 at 04:07 PM AEDT

Inspection: Maintenance Visit & Chemical Application #28

34/34	3	0	25	6
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 12/10/24
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Matthew Partridge
Linked Drawings			
Description	Repairing bunting. Plant and tree bag more trees in zone 4. Fix up some tree bags		
Attachments			

Inspection Details

Inspection Date	Nov 19, 2024	**Due Date**	Nov 19, 2024
Point of Contact		**Responsible Contractor**	
Assignee(s)	Matthew Partridge		

General

2 Neutral **0 Conforming** **0 Deficient** **1 N/A**

1.1 Area of works	Zone, 2, 3, 4
1.3 Notes	No spray due to weather. Repairing bunting. Plant and tree bag more trees in zone 4. Fix up some tree bags

Tasks

1 Neutral **1 Conforming** **0 Deficient** **6 N/A**

2.5 Rubbish Removal	Yes
2.8 Other Works	Removing old deteriorated flagging rope.

Fertilise

1 Neutral **1 Conforming** **0 Deficient** **1 N/A**

3.2 Plants	Yes
3.3 Other	Plant approx 30 trees as top ups in zone 4

Spraying

0 Neutral **0 Conforming** **0 Deficient** **11 N/A**

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

2 Neutral **1 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	5 red necked wallabies spotted. Mostly enjoying the slashed grass area.
6.2 OH&S Observations, Comments, Additional Works	All good.
6.3 Fire Ants Detected	No

Damage

0 Neutral **0 Conforming** **0 Deficient** **1 N/A**

Inspection Signatures



Matthew Partridge signed on Nov 19, 2024 at 01:21 PM AEDT

Inspection: Maintenance Visit & Chemical Application #29

34/34	3	0	20	11
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Thom Durey on 12/18/24
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Matthew Partridge
Linked Drawings			
Description	All zones, spot spray		
Attachments			

Inspection Details

Inspection Date	Dec 16, 2024	**Due Date**	Dec 16, 2024
Point of Contact		**Responsible Contractor**	
Assignee(s)	Matthew Partridge		

General

3 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	Zones 1 to 4
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	25º c W: SE 15km H: 87% Cc: 90%
1.3 Notes	Some light showers.

Tasks

0 Neutral **1 Conforming** **0 Deficient** **7 N/A**

2.4 Weeding	Yes

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

6 Neutral **1 Conforming** **0 Deficient** **4 N/A**

4.1 Weeding	Yes

4.4 Methods Used: Monocotyledon	Knapsack
4.5 Methods Used: Dicotyledon	Knapsack
4.6 Glyphosate Used (ml)(1:100)	500
4.7 Metsulfuron Used (Grams)(1g:10lt)	5
4.8 Dye Used (ML) (60ml:10lt)	100
4.11 Surfactant Used (ml) (10ml:10lt)	50

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

2 Neutral **1 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	A number of wallabies spotted.
6.2 OH&S Observations, Comments, Additional Works	All good
6.3 Fire Ants Detected	No

Damage

0 Neutral **0 Conforming** **0 Deficient** **1 N/A**

Inspection Signatures



Matthew Partridge signed on Dec 16, 2024 at 04:34 PM AEDT

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 08:36 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
5/2/2025 at 12:11 pm

Uploaded by
Matthew Partridge

Upload date
5/2/2025 at 12:17 pm

File name
IMG_2025_02_05_12_11_27_888.j...

Album
Unclassified



Description

Taken date
5/2/2025 at 12:11 pm

Uploaded by
Matthew Partridge

Upload date
5/2/2025 at 12:13 pm

File name
IMG_2025_02_05_12_11_23_791.j...

Album
Unclassified



Description

Taken date
5/2/2025 at 09:31 am

Uploaded by
Matthew Partridge

Upload date
5/2/2025 at 09:32 am

File name
IMG_2025_02_05_09_31_27_543.j...

Album
Unclassified



Description

Taken date
5/2/2025 at 09:31 am

Uploaded by
Matthew Partridge

Upload date
5/2/2025 at 09:32 am

File name
IMG_2025_02_05_09_31_23_282.j...

Album
Unclassified



Description

Taken date
5/2/2025 at 09:31 am

Uploaded by
Matthew Partridge

Upload date
5/2/2025 at 09:32 am

File name
IMG_2025_02_05_09_31_19_949.j...

Album
Unclassified



Description

Taken date
5/2/2025 at 07:46 am

Uploaded by
Bo Walton

Upload date
5/2/2025 at 07:50 am

File name
IMG_2025_02_05_07_46_38_058.j...

Album
Maintenance



Description

Taken date
4/2/2025 at 02:42 pm

Uploaded by
Bo Walton

Upload date
4/2/2025 at 02:46 pm

File name
IMG_2025_02_04_14_42_54_488.j...

Album
Maintenance



Description

Taken date
4/2/2025 at 02:25 pm

Uploaded by
Bo Walton

Upload date
4/2/2025 at 02:29 pm

File name
IMG_2025_02_04_14_25_52_070.j...

Album
Maintenance



Description

Taken date
4/2/2025 at 02:25 pm

Uploaded by
Bo Walton

Upload date
4/2/2025 at 02:29 pm

File name
IMG_2025_02_04_14_25_38_831.j...

Album
Maintenance



Description

Taken date
4/2/2025 at 02:09 pm

Uploaded by
Bo Walton

Upload date
4/2/2025 at 02:12 pm

File name
IMG_2025_02_04_14_09_06_763.j...

Album
Maintenance



Description

Taken date
4/2/2025 at 01:37 pm

Uploaded by
Bo Walton

Upload date
4/2/2025 at 01:41 pm

File name
IMG_2025_02_04_13_37_47_923.j...

Album
Maintenance



Description

Taken date
4/2/2025 at 01:37 pm

Uploaded by
Bo Walton

Upload date
4/2/2025 at 01:41 pm

File name
IMG_2025_02_04_13_37_44_158.j...

Album
Maintenance

Inspection: Maintenance Visit & Chemical Application #30

32/34	9	0	11	12
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 03/13/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Bo Walton
Linked Drawings			
Description	Maintenance of planted and natural regeneration areas. Weeds treated include ragweed, Easter cassia, whiskey grass, paspalum, Singapore daisy and various other exotic annuals and grass species		
Attachments	20250205_093144.jpg, 20250205_093148.jpg, IMG_2025_02_04_14_42_54_488.jpg, IMG_2025_02_04_14_25_52_070.jpg, IMG_2025_02_04_14_09_06_763.jpg, IMG_2025_02_04_13_37_47_923.jpg, IMG_2025_02_04_13_37_44_158.jpg, Screenshot_20250205_081554_Avenza Maps.jpg, Screenshot_20250205_081610_Avenza Maps.jpg		

Inspection Details

Inspection Date	Feb 4, 2025	**Due Date**	Feb 4, 2025
Point of Contact		**Responsible Contractor**	
Assignee(s)	Bo Walton		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	Natural and assisted regeneration areas see map attached
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	Light se breeze, 28c, sunny tending overcast at times, humidity 90%
1.3 Notes	No Response

Tasks

1 Neutral **6 Conforming** **0 Deficient** **1 N/A**

2.1 Mowing	No
2.2 Snipping	No
2.3 Prunning	No

2.4 Weeding	Yes
2.5 Rubbish Removal	Yes
2.7 Water Truck	No
2.8 Other Works	Maintenance of planted and natural regeneration areas. Weeds treated include ragweed, Easter cassia, whiskey grass, paspalum, Singapore daisy and various other exotic annuals and grass species

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

6 Neutral **2 Conforming** **0 Deficient** **2 N/A**

4.1 Weeding	Yes
4.2 Grubbing	No
4.3 Other	No Response
4.4 Methods Used: Monocotyledon	Foliar spray and handweed
4.5 Methods Used: Dicotyledon	Foliar spray and handweed
4.6 Glyphosate Used (ml)(1:100)	600
4.7 Metsulfuron Used (Grams)(1g:10lt)	6
4.8 Dye Used (ML) (60ml:10lt)	360
4.11 Surfactant Used (ml) (10ml:10lt)	60

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

2 Neutral **1 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	Whiskey grass not yet seeding
6.2 OH&S Observations, Comments, Additional Works	Jsea 31
6.3 Fire Ants Detected	No

Damage

1 Neutral **0 Conforming** **0 Deficient** **0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	Wallaby damage to planted stock ongoing but reduced. Still signs of acid sulphate in zone 5. Advanced melaleuca struggling due to exposure.

Inspection Signatures



Matthew Partridge signed on Behalf of Bo Walton on Feb 6, 2025 at 07:18 AM AEDT

Inspection: Maintenance Visit & Chemical Application #31

29/34	10	0	10	9
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 03/13/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Bo Walton
Linked Drawings			
Description	General maintenance of planted and assisted natural regeneration areas. Weeds treated include whiskey grass, Singapore daisy, broad leaf paspalum, and various other exotic annuals and grass species		
Attachments	IMG_2025_02_05_07_46_38_058.jpg, IMG_2025_02_04_14_42_54_488.jpg, Screenshot_20250206_122134_Avenza Maps.jpg, Screenshot_20250206_122207_Avenza Maps.jpg		

Inspection Details

Inspection Date	Feb 5, 2025	**Due Date**	Feb 5, 2025
Point of Contact		**Responsible Contractor**	
Assignee(s)	Bo Walton		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	See maps attached
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	Light easterly, 38c, sunny, humidity 70%
1.3 Notes	No Response

Tasks

1 Neutral **7 Conforming** **0 Deficient** **0 N/A**

2.1 Mowing	No
2.2 Snipping	No
2.3 Prunning	No
2.4 Weeding	Yes

2.5 Rubbish Removal	Yes
2.6 Irrigation / Service	No
2.7 Water Truck	No
2.8 Other Works	General maintenance of planted and assisted natural regeneration areas. Weeds treated include whiskey grass, Singapore daisy, broad leaf paspalum, and various other exotic annuals and grass species

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

6 Neutral **2 Conforming** **0 Deficient** **2 N/A**

4.1 Weeding	Yes
4.2 Grubbing	No
4.3 Other	No Response
4.4 Methods Used: Monocotyledon	Foliar spray
4.5 Methods Used: Dicotyledon	Foliar spray and handweed
4.6 Glyphosate Used (ml)(1:100)	1600
4.7 Metsulfuron Used (Grams)(1g:10lt)	8
4.8 Dye Used (ML) (60ml:10lt)	640
4.11 Surfactant Used (ml) (10ml:10lt)	160

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

0 Neutral **1 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	No Response
6.2 OH&S Observations, Comments, Additional Works	No Response
6.3 Fire Ants Detected	No

Damage

0 Neutral	0 Conforming	0 Deficient	0 N/A

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	No Response

Inspection Signatures



Bo Walton signed on Feb 10, 2025 at 05:26 AM AEDT

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 08:35 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
27/3/2025 at 09:17 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:59 pm

File name
IMG_2025_03_27_09_17_50_610.j...

Album
Maintenance



Description

Taken date
27/3/2025 at 09:12 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:59 pm

File name
IMG_2025_03_27_09_12_45_309.j...

Album
Maintenance



Description

Taken date
27/3/2025 at 09:08 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:58 pm

File name
IMG_2025_03_27_09_08_07_923.j...

Album
Vehicle Damage to Habitat Restoration Area



Description

Taken date
27/3/2025 at 09:08 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:58 pm

File name
IMG_2025_03_27_09_08_03_754.j...

Album
Vehicle Damage to Habitat Restoration Area



Description

Taken date
27/3/2025 at 08:59 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:58 pm

File name
IMG_2025_03_27_08_59_48_868.j...

Album
Vehicle Damage to Habitat Restoration Area



Description

Taken date
27/3/2025 at 08:57 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:58 pm

File name
IMG_2025_03_27_08_57_21_210.j...

Album
Vehicle Damage to Habitat Restoration Area



Description

Taken date
27/3/2025 at 08:54 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:58 pm

File name
IMG_2025_03_27_08_54_35_858.j...

Album
Vehicle Damage to Habitat Restoration Area



Description

Taken date
27/3/2025 at 08:52 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:58 pm

File name
IMG_2025_03_27_08_52_29_929.j...

Album
Vehicle Damage to Habitat Restoration Area



Description

Taken date
27/3/2025 at 08:50 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:58 pm

File name
IMG_2025_03_27_08_50_42_541.j...

Album
Vehicle Damage to Habitat Restoration Area



Description

Taken date
27/3/2025 at 08:50 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:58 pm

File name
IMG_2025_03_27_08_50_10_839.j...

Album
Vehicle Damage to Habitat Restoration Area



Description

Taken date
27/3/2025 at 08:49 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:58 pm

File name
IMG_2025_03_27_08_49_00_424.j...

Album
Vehicle Damage to Habitat Restoration Area



Description

Taken date
27/3/2025 at 08:48 am

Uploaded by
Bo Walton

Upload date
27/3/2025 at 03:57 pm

File name
IMG_2025_03_27_08_48_39_283.j...

Album
Vehicle Damage to Habitat Restoration Area

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 08:12 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
7/4/2025 at 02:26 pm

Uploaded by
Matthew Partridge

Upload date
7/4/2025 at 02:27 pm

File name
IMG_2025_04_07_14_26_36_015.j...

Album
Unclassified



Description

Taken date
7/4/2025 at 02:26 pm

Uploaded by
Matthew Partridge

Upload date
7/4/2025 at 02:27 pm

File name
IMG_2025_04_07_14_26_33_682.j...

Album
Unclassified



Description

Taken date
7/4/2025 at 12:41 pm

Uploaded by
Matthew Partridge

Upload date
7/4/2025 at 12:42 pm

File name
IMG_2025_04_07_12_41_03_617.j...

Album
Unclassified



Description

Taken date
7/4/2025 at 12:41 pm

Uploaded by
Matthew Partridge

Upload date
7/4/2025 at 12:42 pm

File name
IMG_2025_04_07_12_41_01_101.j...

Album
Unclassified



Description

Taken date
7/4/2025 at 12:40 pm

Uploaded by
Matthew Partridge

Upload date
7/4/2025 at 12:41 pm

File name
IMG_2025_04_07_12_40_58_626.j...

Album
Unclassified



Description

Taken date
7/4/2025 at 11:09 am

Uploaded by
Matthew Partridge

Upload date
7/4/2025 at 11:11 am

File name
IMG_2025_04_07_11_09_46_757.j...

Album
Unclassified



Description

Taken date
7/4/2025 at 11:09 am

Uploaded by
Matthew Partridge

Upload date
7/4/2025 at 11:11 am

File name
IMG_2025_04_07_11_09_44_634.j...

Album
Unclassified



Description

Taken date
7/4/2025 at 11:01 am

Uploaded by
Matthew Partridge

Upload date
7/4/2025 at 11:02 am

File name
IMG_2025_04_07_11_01_09_249.j...

Album
Unclassified



Description

Taken date
7/4/2025 at 10:59 am

Uploaded by
Bo Walton

Upload date
8/4/2025 at 04:16 pm

File name
IMG_2025_04_07_10_59_21_868.j...

Album
Maintenance



Description

Taken date
7/4/2025 at 08:12 am

Uploaded by
Bo Walton

Upload date
8/4/2025 at 04:15 pm

File name
IMG_2025_04_07_08_12_58_441.j...

Album
Maintenance

Inspection: Maintenance Visit & Chemical Application #32

36/36	3	0	22	11
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 05/01/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Matthew Partridge
Linked Drawings			
Description	To be completed on each maintenance visit.		
Attachments	1744236591646.655029_tempImage.jpeg, 1744236591720.491943_tempImage.jpeg, 1744236591538.915039_tempImage.jpeg, Screenshot_20250407_153012_Avenza Maps.jpg		

Inspection Details

Inspection Date	Apr 7, 2025	**Due Date**	Apr 7, 2025
Point of Contact		**Responsible Contractor**	
Assignee(s)	Matthew Partridge		

General

3 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	All planted areas
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	25º c W: S 10km H: 56% Cc: 10%
1.3 Notes	Large portion of zone 2 still under water

Tasks

0 Neutral **1 Conforming** **0 Deficient** **7 N/A**

2.4 Weeding	Yes

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

5 Neutral **1 Conforming** **0 Deficient** **7 N/A**

4.1 Weeding	Yes

4.4 Methods Used: Monocotyledon	Knapsack
4.5 Methods Used: Dicotyledon	Knapsack
4.8 Glyphosate Used (100ml:10lt)	1200
4.10 Dye Used (ML) (40ml:10lt)	360
4.13 Surfactant Used (ml) (10ml:10lt)	120

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

2 Neutral **1 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	Red necked wallabies. Brown snakes, red belly black snake.
6.2 OH&S Observations, Comments, Additional Works	All good
6.3 Fire Ants Detected	No

Damage

1 Neutral **0 Conforming** **0 Deficient** **0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	Still wallabies damaging some trees. Some dug areas, possibly bandicoot/potoroo

Inspection Signatures



Matthew Partridge signed on Apr 7, 2025 at 03:27 PM AEST

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 07:24 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
15/5/2025 at 08:51 am

Uploaded by
Bo Walton

Upload date
16/5/2025 at 03:49 pm

File name
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Album
Replacement Planting (Wallaby Damaged) 15.5.25



Description

Taken date
15/5/2025 at 08:51 am

Uploaded by
Bo Walton

Upload date
16/5/2025 at 03:49 pm

File name
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Album
Replacement Planting (Wallaby Damaged) 15.5.25



Description

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15/5/2025 at 08:51 am

Uploaded by
Bo Walton

Upload date
16/5/2025 at 03:49 pm

File name
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Album
Replacement Planting (Wallaby Damaged) 15.5.25



Description

Taken date
15/5/2025 at 07:14 am

Uploaded by
Bo Walton

Upload date
16/5/2025 at 03:48 pm

File name
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Album
Replacement Planting (Wallaby Damaged) 15.5.25



Description

Taken date
9/5/2025 at 09:56 am

Uploaded by
Bo Walton

Upload date
9/5/2025 at 12:48 pm

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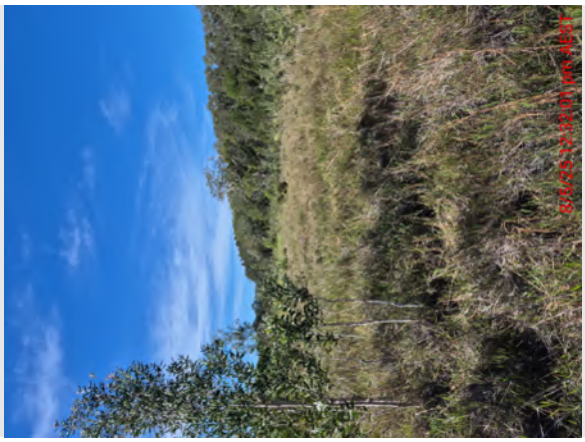
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8/5/2025 at 12:32 pm

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 12:32 pm

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Album
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Description

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Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 12:32 pm

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Description

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8/5/2025 at 12:17 pm

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 12:18 pm

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Album
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Description

Taken date
8/5/2025 at 12:07 pm

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 12:07 pm

File name
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Album
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Description

Taken date
8/5/2025 at 11:36 am

Uploaded by
Bo Walton

Upload date
9/5/2025 at 02:56 pm

File name
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Album
Maintenance



Description
Zone 1

Taken date
8/5/2025 at 11:28 am

Uploaded by
Lua Porto

Upload date
9/5/2025 at 07:10 am

File name
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Description
Zone 1

Taken date
8/5/2025 at 11:28 am

Uploaded by
Lua Porto

Upload date
8/5/2025 at 11:28 am

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Description

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8/5/2025 at 09:37 am

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 09:37 am

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Album
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Description

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8/5/2025 at 09:37 am

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 09:37 am

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Album
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Description

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8/5/2025 at 09:37 am

Uploaded by
Matthew Partridge

Upload date
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Description

Taken date
8/5/2025 at 09:33 am

Uploaded by
Matthew Partridge

Upload date
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Description

Taken date
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Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 09:34 am

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Album
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Description

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Uploaded by
Matthew Partridge

Upload date
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Description

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8/5/2025 at 09:07 am

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 09:07 am

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Description

Taken date
8/5/2025 at 08:53 am

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 08:54 am

File name
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Album
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Description

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8/5/2025 at 08:53 am

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 08:53 am

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Album
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Description

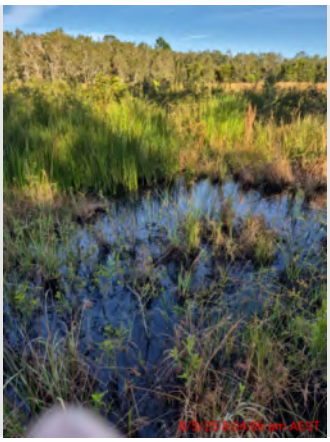
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8/5/2025 at 08:09 am

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 08:09 am

File name
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Album
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Description

Taken date
8/5/2025 at 08:04 am

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 08:04 am

File name
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Album
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Description

Taken date
8/5/2025 at 08:03 am

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 08:03 am

File name
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Album
Unclassified

Boyds Bay Group



Description

Taken date
8/5/2025 at 08:03 am

Uploaded by
Matthew Partridge

Upload date
8/5/2025 at 08:03 am

File name
IMG_2025_05_08_08_03_38_804.j...

Album
Unclassified

Inspection: Maintenance Visit & Chemical Application #33

35/36	3	0	21	11
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 05/14/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Matthew Partridge
Linked Drawings			
Description	To be completed on each maintenance visit.		
Attachments			

Inspection Details

Inspection Date	May 8, 2025	**Due Date**	May 8, 2025
Point of Contact		**Responsible Contractor**	
Assignee(s)	Matthew Partridge		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	All over
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	23ºc W: 10km S H: 60% Cc: 10%
1.3 Notes	No Response

Tasks

0 Neutral **1 Conforming** **0 Deficient** **7 N/A**

2.2 Snipping	Yes

Fertilise

1 Neutral **0 Conforming** **0 Deficient** **2 N/A**

3.3 Other	Removing tree bags that are no longer required

Spraying

5 Neutral **1 Conforming** **0 Deficient** **7 N/A**

4.1 Weeding	Yes
4.4 Methods Used: Monocotyledon	Knapsack/brushcutting
4.5 Methods Used: Dicotyledon	Knapsack
4.8 Glyphosate Used (100ml:10lt)	1000
4.10 Dye Used (ML) (40ml:10lt)	400
4.13 Surfactant Used (ml) (10ml:10lt)	100

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

2 Neutral **1 Conforming** **0 Deficient** **0 N/A**

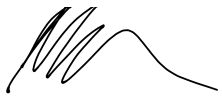
6.1 Flora & Fauna Observations	Wallabies, rainbow bee eaters, white belly sea eagle, native raspberry in fruit. Red belly black snake.
6.2 OH&S Observations, Comments, Additional Works	All positive
6.3 Fire Ants Detected	No

Damage

1 Neutral **0 Conforming** **0 Deficient** **0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	Some evidence of large trees blown over after cyclone.

Inspection Signatures



Matthew Partridge signed on May 9, 2025 at 09:01 AM AEST

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 07:23 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
16/6/2025 at 02:52 pm

Uploaded by
Bo Walton

Upload date
16/6/2025 at 02:52 pm

File name
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Album
Maintenance



Description

Taken date
16/6/2025 at 11:37 am

Uploaded by
Bo Walton

Upload date
16/6/2025 at 11:38 am

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Album
Maintenance



Description

Taken date
16/6/2025 at 11:31 am

Uploaded by
Bo Walton

Upload date
16/6/2025 at 11:31 am

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Album
Maintenance



Description

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16/6/2025 at 09:30 am

Uploaded by
Bo Walton

Upload date
16/6/2025 at 09:30 am

File name
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Maintenance

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 07:23 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
16/6/2025 at 08:09 am

Uploaded by
Bo Walton

Upload date
16/6/2025 at 08:09 am

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Maintenance



Description

Taken date
16/6/2025 at 08:00 am

Uploaded by
Bo Walton

Upload date
16/6/2025 at 08:00 am

File name
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Album
Maintenance

Inspection: Maintenance Visit & Chemical Application #34

35/36	8	0	16	11
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 06/19/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Bo Walton
Linked Drawings			
Description	Maintenance of planted areas and natural areas. Worked areas that require action due to latest environmental report. Weeds treated include whiskey grass, broadleaf paspalum, coral berry, and various other exotic annuals and grasses		
Attachments	Screenshot_20250618_125305_Avenza Maps.jpg, Screenshot_20250618_125440_Avenza Maps.jpg, IMG_2025_06_16_14_52_24_854.jpg, IMG_2025_06_16_11_37_57_845.jpg, IMG_2025_06_16_11_31_23_723.jpg, IMG_2025_06_16_09_30_37_194.jpg, IMG_2025_06_16_08_09_31_876.jpg, IMG_2025_06_16_08_00_26_529.jpg		

Inspection Details

Inspection Date	Jun 16, 2025	**Due Date**	Jun 16, 2025
Point of Contact		**Responsible Contractor**	
Assignee(s)	Bo Walton		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	See map attached
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	Light sw breeze, sunny, 21c
1.3 Notes	No Response

Tasks

1 Neutral **5 Conforming** **0 Deficient** **2 N/A**

2.1 Mowing	No
2.2 Snipping	No
2.3 Prunning	No
2.4 Weeding	Yes

2.5 Rubbish Removal	Yes
2.8 Other Works	Maintenance of planted areas and natural areas. Worked areas that require action due to latest environmental report. Weeds treated include whiskey grass, broadleaf paspalum, coral berry, and various other exotic annuals and grasses

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

7 Neutral **2 Conforming** **0 Deficient** **4 N/A**

4.1 Weeding	Yes
4.2 Grubbing	No
4.3 Other	Handweed
4.4 Methods Used: Monocotyledon	Foliar spray
4.5 Methods Used: Dicotyledon	Foliar spray and handweed
4.8 Glyphosate Used (100ml:10lt)	800
4.9 Metsulfuron Used (Grams)(1.5g:10lt)	12
4.10 Dye Used (ML) (40ml:10lt)	480
4.13 Surfactant Used (ml) (10ml:10lt)	80

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

0 Neutral **1 Conforming** **0 Deficient** **2 N/A**

6.3 Fire Ants Detected	No

Damage

1 Neutral **0 Conforming** **0 Deficient** **0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	Minor wallaby damage, possibly spray deterrent?

Inspection Signatures



Bo Walton signed on Jun 18, 2025 at 01:05 PM AEST

Inspection: Maintenance Visit & Chemical Application #35

31/36	2	0	20	9
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 06/25/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Hideya Fujiki
Linked Drawings			
Description	To be completed on each maintenance visit.		
Attachments			

Inspection Details

Inspection Date	Jun 20, 2025	**Due Date**	Jun 20, 2025
Point of Contact		**Responsible Contractor**	
Assignee(s)	Hideya Fujiki		

General

3 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	Zone4
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	16.4 degrees SW19km/h 79% humidity
1.3 Notes	Grass sprayed across creek

Tasks

0 Neutral **0 Conforming** **0 Deficient** **8 N/A**

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

6 Neutral **2 Conforming** **0 Deficient** **4 N/A**

4.1 Weeding	Yes
4.2 Grubbing	No
4.3 Other	No Response

4.4 Methods Used: Monocotyledon	Spray
4.5 Methods Used: Dicotyledon	Spray
4.8 Glyphosate Used (100ml:10lt)	1200
4.9 Metsulfuron Used (Grams)(1.5g:10lt)	12
4.10 Dye Used (ML) (40ml:10lt)	480
4.13 Surfactant Used (ml) (10ml:10lt)	120

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

0 Neutral **0 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	No Response
6.2 OH&S Observations, Comments, Additional Works	No Response
6.3 Fire Ants Detected	No Response

Damage

0 Neutral **0 Conforming** **0 Deficient** **0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	No Response

Inspection Signatures



Hideya Fujiki signed on Jun 20, 2025 at 01:05 PM AEST

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 07:23 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
21/7/2025 at 02:42 pm

Uploaded by
Matthew Partridge

Upload date
21/7/2025 at 02:42 pm

File name
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Album
Unclassified



Description

Taken date
21/7/2025 at 02:39 pm

Uploaded by
Matthew Partridge

Upload date
21/7/2025 at 02:40 pm

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Album
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Description

Taken date
21/7/2025 at 02:39 pm

Uploaded by
Matthew Partridge

Upload date
21/7/2025 at 02:39 pm

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Album
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Description

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Matthew Partridge

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Description

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Uploaded by
Matthew Partridge

Upload date
21/7/2025 at 02:35 pm

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Album
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Description

Taken date
17/7/2025 at 02:21 pm

Uploaded by
Tom Edwards

Upload date
17/7/2025 at 02:22 pm

File name
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Album
Unclassified



Description

Taken date
17/7/2025 at 12:48 pm

Uploaded by
Lua Porto

Upload date
17/7/2025 at 12:48 pm

File name
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Album
Photos From Daily Log



Description

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Uploaded by
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Upload date
17/7/2025 at 12:47 pm

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Album
Photos From Daily Log



Description

Taken date
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Tom Edwards

Upload date
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Description

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15/7/2025 at 02:05 pm

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Matthew Partridge

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Description

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15/7/2025 at 02:04 pm

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Description

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15/7/2025 at 12:51 pm

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Description

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Matthew Partridge

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15/7/2025 at 12:51 pm

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Description

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15/7/2025 at 07:32 am

Uploaded by
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Upload date
15/7/2025 at 07:32 am

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Album
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Description

Taken date
15/7/2025 at 07:28 am

Uploaded by
Matthew Partridge

Upload date
15/7/2025 at 07:28 am

File name
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Album
Unclassified

Inspection: Maintenance Visit & Chemical Application #36

35/36	3	0	22	10
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 07/21/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Matthew Partridge
Linked Drawings			
Description	Zone 4, 3, begin 2.		
Attachments			

Inspection Details

Inspection Date	Jul 15, 2025	**Due Date**	
Point of Contact		**Responsible Contractor**	
Assignee(s)	Matthew Partridge		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	Zone 4, 3, 2
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	19º c W: NW 10km H:38% Cc:90%
1.3 Notes	No Response

Tasks

0 Neutral **1 Conforming** **0 Deficient** **7 N/A**

2.4 Weeding	Yes

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

6 Neutral **1 Conforming** **0 Deficient** **6 N/A**

4.1 Weeding	Yes

4.4 Methods Used: Monocotyledon	Knapsack
4.5 Methods Used: Dicotyledon	Knapsack
4.8 Glyphosate Used (100ml:10lt)	800
4.9 Metsulfuron Used (Grams)(1.5g:10lt)	8
4.10 Dye Used (ML) (40ml:10lt)	240
4.13 Surfactant Used (ml) (10ml:10lt)	80

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

2 Neutral **1 Conforming** **0 Deficient** **0 N/A**

6.1 Flora & Fauna Observations	Wallabies. White belly sea eagle, black shouldered kites.
6.2 OH&S Observations, Comments, Additional Works	All good
6.3 Fire Ants Detected	No

Damage

0 Neutral **0 Conforming** **0 Deficient** **1 N/A**

Inspection Signatures



Matthew Partridge signed on Jul 15, 2025 at 02:54 PM AEST

Inspection: Maintenance Visit & Chemical Application #37

36/36	3	0	23	10
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 07/23/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Hideya Fujiki
Linked Drawings			
Description	To be completed on each maintenance visit.		
Attachments			

Inspection Details

Inspection Date	Jul 17, 2025	**Due Date**	Jul 17, 2025
Point of Contact		**Responsible Contractor**	
Assignee(s)	Hideya Fujiki		

General

2 Neutral **0 Conforming** **0 Deficient** **1 N/A**

1.1 Area of works	All areas
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	18.8 degrees SE 17km/h 79% humidity

Tasks

0 Neutral **0 Conforming** **0 Deficient** **8 N/A**

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

7 Neutral **2 Conforming** **0 Deficient** **4 N/A**

4.1 Weeding	Yes
4.2 Grubbing	No
4.4 Methods Used: Monocotyledon	Spray
4.5 Methods Used: Dicotyledon	Spray

4.8 Glyphosate Used (100ml:10lt)	1500
4.9 Metsulfuron Used (Grams)(1.5g:10lt)	15
4.10 Dye Used (ML) (40ml:10lt)	600
4.11 Sempra Used (Grams) (1g:10lt)	15
4.13 Surfactant Used (ml) (10ml:10lt)	150

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

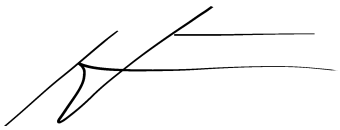
1 Neutral **1 Conforming** **0 Deficient** **1 N/A**

6.1 Flora & Fauna Observations	Zone 5 , 5 trees dead 3 alive
6.3 Fire Ants Detected	No

Damage

0 Neutral **0 Conforming** **0 Deficient** **1 N/A**

Inspection Signatures



Hideya Fujiki signed on Jul 17, 2025 at 03:18 PM AEST

Boyds Bay Group

Printed on Tue 16 Sep 2025 at 07:23 am AEST

Job #: 70000 Harvest
TBC
Byron Bay, New South Wales 2481



Description

Taken date
18/8/2025 at 02:07 pm

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 02:08 pm

File name
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Album
Unclassified



Description

Taken date
18/8/2025 at 02:07 pm

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 02:07 pm

File name
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Album
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Description

Taken date
18/8/2025 at 01:32 pm

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 01:32 pm

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Description

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18/8/2025 at 01:05 pm

Uploaded by
Tom Edwards

Upload date
18/8/2025 at 01:07 pm

File name
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Album
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Description

Taken date
18/8/2025 at 01:05 pm

Uploaded by
Tom Edwards

Upload date
18/8/2025 at 01:07 pm

File name
20250818_130515.jpg

Album
Unclassified



Description

Taken date
18/8/2025 at 01:04 pm

Uploaded by
Tom Edwards

Upload date
18/8/2025 at 01:07 pm

File name
20250818_130423.jpg

Album
Unclassified



Description

Taken date
18/8/2025 at 11:33 am

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 11:33 am

File name
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Album
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Description

Taken date
18/8/2025 at 11:33 am

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 11:33 am

File name
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Album
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Description

Taken date
18/8/2025 at 11:32 am

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 11:33 am

File name
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Album
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Description

Taken date
18/8/2025 at 11:31 am

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 11:32 am

File name
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Album
Unclassified



Description

Taken date
18/8/2025 at 11:31 am

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 11:32 am

File name
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Album
Unclassified



Description

Taken date
18/8/2025 at 11:31 am

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 11:31 am

File name
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Album
Unclassified

Boyds Bay Group



Description

Taken date
18/8/2025 at 11:31 am

Uploaded by
Matthew Partridge

Upload date
18/8/2025 at 11:31 am

File name
IMG_2025_08_18_11_31_30_431.j...

Album
Unclassified

Inspection: Maintenance Visit & Chemical Application #38

34/36	2	0	21	11
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 08/25/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Matthew Partridge
Linked Drawings			
Description	To be completed on each maintenance visit.		
Attachments	IMG_2025_08_18_11_33_02_857.jpg, IMG_2025_08_18_11_33_00_744.jpg, IMG_2025_08_18_11_32_59_304.jpg, IMG_2025_08_18_11_31_48_631.jpg, IMG_2025_08_18_11_31_35_778.jpg		

Inspection Details

Inspection Date	Aug 18, 2025	**Due Date**	Aug 18, 2025
Point of Contact		**Responsible Contractor**	
Assignee(s)	Matthew Partridge		

General

2 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	Zone 1, 2. 3, 5
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	17º c W: SE 15km H: 65% Cc: 30%
1.3 Notes	No Response

Tasks

0 Neutral **1 Conforming** **0 Deficient** **7 N/A**

2.4 Weeding	Yes

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

7 Neutral **1 Conforming** **0 Deficient** **5 N/A**

4.1 Weeding	Yes

4.3 Other	Creek in zone 5 has been cleared. Trees have been pushed into Regen zone (see photos)
4.4 Methods Used: Monocotyledon	Knapsack
4.5 Methods Used: Dicotyledon	Knapsack
4.8 Glyphosate Used (100ml:10lt)	800
4.9 Metsulfuron Used (Grams)(1.5g:10lt)	8
4.10 Dye Used (ML) (40ml:10lt)	320
4.13 Surfactant Used (ml) (10ml:10lt)	80

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

2 Neutral **0 Conforming** **0 Deficient** **1 N/A**

6.1 Flora & Fauna Observations	Red belly black snake, Egret.
6.2 OH&S Observations, Comments, Additional Works	All good. Snakes.

Damage

0 Neutral **0 Conforming** **0 Deficient** **0 N/A**

7.1 Dead, Damaged, Vandalised or Stolen Plants, Materials or Equipment	No Response

Inspection Signatures



Matthew Partridge signed on Aug 18, 2025 at 03:15 PM AEST

Inspection: Maintenance Visit & Chemical Application #39

36/36	10	0	17	9
Items Inspected	Conforming	Deficient	N/A	Neutral

Type	Environmental	**Status**	Closed by Ashton Lindbeck on 09/11/25
Trade	Bush Regeneration	**Location**	
Spec Section		**Created By**	Hideya Fujiki
Linked Drawings			
Description	To be completed on each maintenance visit.		
Attachments			

Inspection Details

Inspection Date	Aug 27, 2025	**Due Date**	Aug 27, 2025
Point of Contact		**Responsible Contractor**	
Assignee(s)	Hideya Fujiki		

General

3 Neutral **0 Conforming** **0 Deficient** **0 N/A**

1.1 Area of works	Zone 1,3,4
1.2 Weather conditions (Temperature, Wind, Humidity, Cloud Cover)	19.2 degrees N28km/h 73%humidity
1.3 Notes	Standard maintenance run plus brushcutting in zone 1

Tasks

0 Neutral **7 Conforming** **0 Deficient** **1 N/A**

2.1 Mowing	No
2.2 Snipping	Yes
2.3 Prunning	No
2.4 Weeding	No
2.5 Rubbish Removal	No

2.6 Irrigation / Service	No
2.7 Water Truck	No

Fertilise

0 Neutral **0 Conforming** **0 Deficient** **3 N/A**

Spraying

6 Neutral **2 Conforming** **0 Deficient** **5 N/A**

4.1 Weeding	Yes
4.2 Grubbing	No
4.4 Methods Used: Monocotyledon	Spray
4.5 Methods Used: Dicotyledon	Spray
4.8 Glyphosate Used (100ml:10lt)	1600
4.9 Metsulfuron Used (Grams)(1.5g:10lt)	16
4.10 Dye Used (ML) (40ml:10lt)	640
4.13 Surfactant Used (ml) (10ml:10lt)	160

Post Turf Laying Treatment

0 Neutral **0 Conforming** **0 Deficient** **5 N/A**

Observations

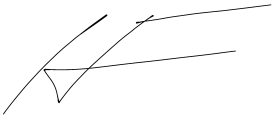
0 Neutral **1 Conforming** **0 Deficient** **2 N/A**

6.3 Fire Ants Detected	No

Damage

0 Neutral **0 Conforming** **0 Deficient** **1 N/A**

Inspection Signatures



Hideya Fujiki signed on Aug 28, 2025 at 11:07 AM AEST

Appendix D – Monthly Water Quality Monitoring Reports

MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 7th August 2024

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services

Date:

21/08/2024

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

T: 1300 861 325

E: admin@envsolutions.com.au

www.envsolutions.com.au

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_August_2024

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	16/08/2024	
Reviewed By:	Kingsley Baldwin	21/08/2024	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored, or transmitted in any form without the prior consent of ENV.

ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks now complete for Stage 1 of the Project.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Attachment 1.

An assessment of the monthly analytical results presented in Attachment 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of EC, TN and Al.	No site related impacts identified at this monitoring location. All elevated parameters are marginally outside baseline values with the exception of aluminium where no baseline data was recorded. Aluminium values reported are trending lower.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges.	No site related impacts identified at this location.
MW5	pH, TDS, SO_4 and several cations/anions (Ca, Na, Mg & Al) concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of exposed acid sulfate soils proximal to the monitoring well. A review of trends for each of the analytes outside of baseline ranges indicates that a gradual improvement is observed in pH, EC, Na, Ca, Mg and K.
MW7	EC, TDS and SO_4 were outside of baseline ranges.	pH and Al noted to have improved from previous monitoring round. SO_4 is noted to be trending towards baseline from the previous monitoring round. No site related impacts identified at this location.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance to the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Attachment 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Attachment 3. Select photos of the surface water sampling programme are presented in Attachment 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Attachment 3, identified the following observations:

Site	Observation	Comments
SW01	pH, TDS, EC, SO_4, Ca, Fe and Ni were recorded outside of baseline values.	This site is located at an upstream location receiving water from off-site. Elevated analytes at this location are associated with the acid sulfate soil landscape of the Belongil Creek Catchment.
SW02	All parameters were within baseline ranges with the exception of TDS and SO_4.	This site is located at an upstream location receiving water from off-site. Ca and SO_4 concentrations have improved when compared to the last round of monitoring results

Site	Observation	Comments
SW03	pH, TDS, EC, SO_4 and several cations/anions (NH_3, Ca, Ni & Mg) were recorded outside baseline values. Total Recoverable Hydrocarbons (C10-C16 and TRH >C10-C40 (total)) were also recorded outside of baseline ranges.	This site is located within the Northern Main Drain, downstream of Stage 1 works. A review of trends for each individual analyte exceeding baseline identified improvements in water quality with pH trending higher and TDS, EC, SO_4, Ca, Mg, Ni and Al trending lower. Continued applications of ag-lime are required to further improve water quality within the drainage network. Elevated concentrations of hydrocarbons were identified in this monitoring round. No visual indicators of hydrocarbons were noted during the site inspection. Ongoing monitoring will determine if this is an isolated event.
SW04	pH, TDS, EC, SO_4 and several cations/anions (Na, Al, Ca, Mg, Fe, Ni & Zn) were outside baseline ranges. Total Recoverable Hydrocarbons (C10-C16 and C10 – C16 (less Naphthalene)) were also recorded outside of baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. A review of trends for each individual analyte exceeding baseline identified gradual improvements in water quality with Na, SO4, Ca, Mg Fe, Ni Al and Zn all trending lower. Elevated concentrations of hydrocarbons were identified in this monitoring round. No visual indicators of hydrocarbons were noted during the site inspection. Ongoing monitoring will determine if this is an isolated event.
SW05	SO_4 and Total Recoverable Hydrocarbons (C15-C28, C10-16, C10 – C16 (less Naphthalene))	This site is located downstream of monitoring location SW03 and as such, elevated hydrocarbons noted at this location are likely attributed to upstream conditions. Ongoing monitoring will determine if this is an isolated event As such, no site related impacts have been observed.
SW06	pH, EC, TN and Al were outside ANZG default guideline values (95% for slightly disturbed river systems).	No site related impacts observed. Although concentrations are outside of the ANZG (2018) criteria (95% for slightly disturbed river systems) all the reported concentration are within background concentrations measured at location SW05 which is located approximately 500m upstream of the SW06. Given all values fall within the upstream baseline ranges recorded at SW05, no definitive degradation in water quality is observed between the two locations.

3 RAINFALL

During this monitoring period (10/07/2024 - 6/08/2024), 4.6 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04, with water quality remaining poor at this location. The water quality at SW03 has deteriorated from the previous monitoring round and is again noted to be poor. Although water quality remains poor, a trend assessment of individual analytes at each of the sites (SW03 and SW04) indicates a gradual improvement in water quality. Hydrocarbon concentrations upstream of the receiving environment have been noted to have impact receiving environment SW05. No indication of poor water quality is evident at downstream receiving environment location SW06.

To mitigate poor water quality onsite, routine monthly lime applications are required to continue to buffer acidic waters within the drainage network until acid generation has been depleted. At this time, the hydrocarbon concentrations identified in this month's monitoring is an isolated occurrence and ongoing monitoring will determine if it is related to site impacts.

Water quality within the groundwater monitoring network continues to indicate localised impact from acid sulfate soils adjacent to MW5. It remains postulated that fill emplacement and the cutting of underground services proximal to the well has subjected this location to acid sulfate soil impacts.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site.

- Continue routine monthly dusting of all drainage lines and outlets with ag-lime until acid generation has been exhausted.

ATTACHMENT 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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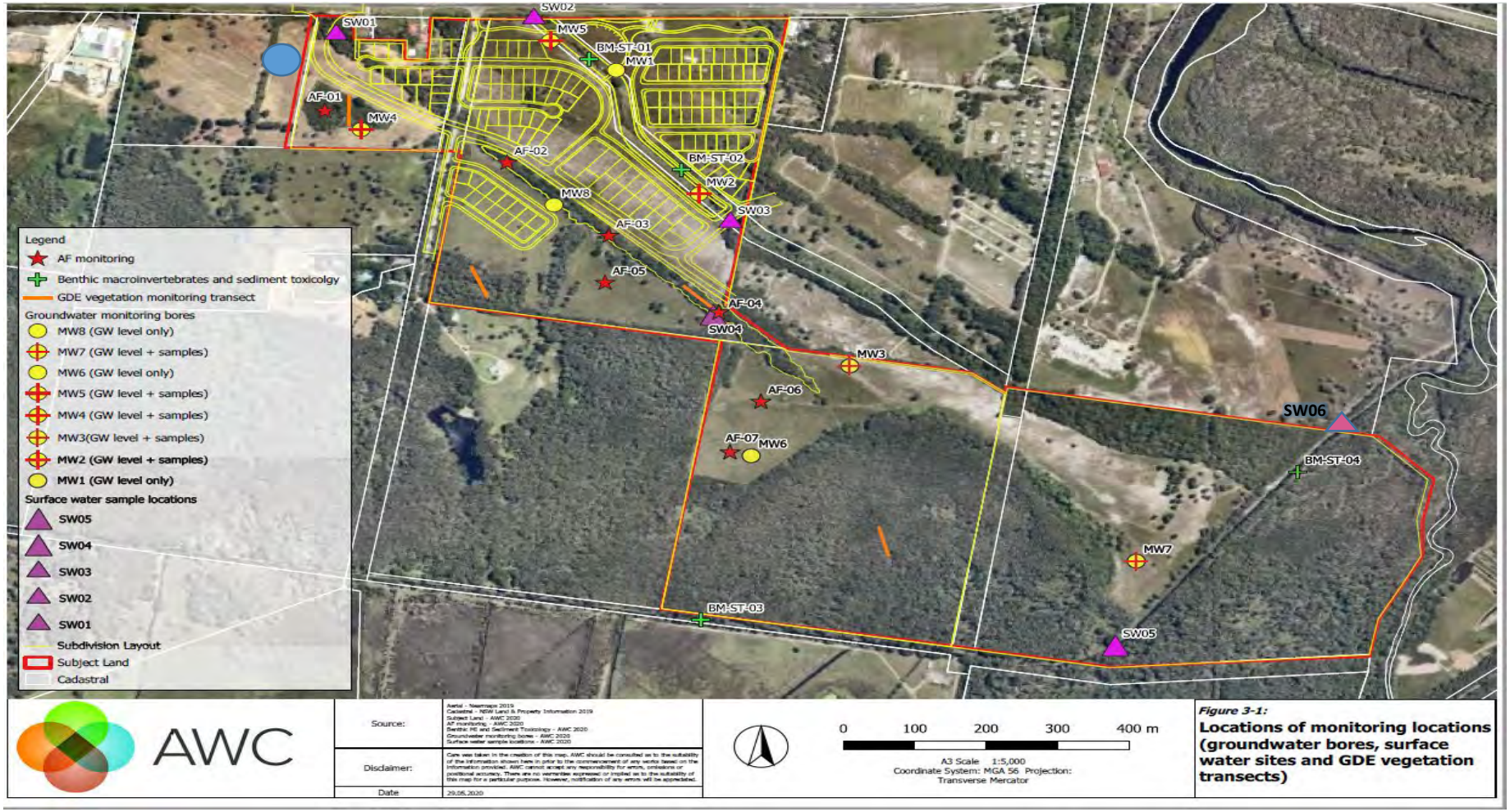


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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ATTACHMENT 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/2022	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.07
	20/10/2022	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.08
	14/11/2022	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.05
	14/12/2022	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.33
	18/01/2023	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.41
	20/02/2023	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.14
	28/03/2023	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.48
	18/04/2023	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.35
	18/05/2023	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.16
	25/06/2023	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.44
	24/07/2023	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.00
	21/08/2023	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.15
	18/09/2023	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.08
	18/10/2023	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.20
	20/11/2023	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.26
	19/12/2023	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.13
	20/01/2024	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.08
	26/02/2024	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.93
	26/03/2024	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.43
	18/04/2024	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/2024	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.15
	25/06/2024	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.04
	10/07/2024	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.15
	6/08/2024	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.17
MW2 Baseline		**4.22 - 5.70**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0**	**-**	**<0.5**
MW3	29/09/2022	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.11
	20/10/2022	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.13
	14/11/2022	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.14
	14/12/2022	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.19
	18/01/2023	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.00
	20/02/2023	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.15
	28/03/2023	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.28
	18/04/2023	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.45
	18/05/2023	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.36
	15/06/2023	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.45
	24/07/2023	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.26
	21/08/2023	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.48
	18/09/2023	Dry – no sample collected																
	18/10/2023	Dry – no sample collected																
	20/11/2023	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.64
	19/12/2023	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.43
	20/01/2024	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.19
	26/02/2024	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.45
	26/03/2024	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.20
	18/04/2024	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.26
	20/05/2024	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.13
	25/06/2024	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.09
	10/07/2024	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.60
	6/08/2024	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.23
MW3 Baseline		**3.99 - 5.33**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0**	**-**	**<0.5**

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4	29/09/2022	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.05
	20/10/2022	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.05
	14/11/2022	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.17
	14/12/2022	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.34
	18/01/2023	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.25
	20/02/2023	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.39
	28/03/2023	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.21
	18/04/2023	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.81
	18/05/2023	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.71
	15/06/2023	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.41
	24/07/2023	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.71
	21/08/2023	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.20
	18/09/2023	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.53
	18/10/2023	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.37
	20/11/2023	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.26
	19/12/2023	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.34
	20/01/2024	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.12
	26/02/2024	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.41
	26/03/2024	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.28
	18/04/2024	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.39
	20/05/2024	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.37
	25/06/2024	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.15
	10/07/2024	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.46
	6/08/2024	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.21
MW4 Baseline		**3.97 - 5.84**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0**	-	**<0.5**
MW5	29/09/2022	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.06
	20/10/2022	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.07
	14/11/2022	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.03
	14/12/2022	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.33
	18/01/2023	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.15
	20/02/2023	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.78
	28/03/2023	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.29
	18/04/2023	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.36
	18/05/2023	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.67
	15/06/2023	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.00
	24/07/2023	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.27
	21/08/2023	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.84
	18/09/2023	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.31
	18/10/2023	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.24
	20/11/2023	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.00
	19/12/2023	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.75
	20/01/2024	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.23
	26/02/2024	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.00
	26/03/2024	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.57
	18/04/2024	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.35
	20/05/2024	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.72
	25/06/2024	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.42
	11/07/2024	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.71
	6/08/2024	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.06
MW5 Baseline		**4.31 - 5.53**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0**	-	**<0.5**

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	29/09/2022	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.12
	20/10/2022	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.08
	14/11/2022	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.10
	14/12/2022	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.33
	18/01/2023	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.13
	20/02/2023	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.63
	28/03/2023	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.14
	18/04/2023	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.91
	18/05/2023	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.85
	15/06/2023	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.64
	24/07/2023	5.1	140	100	90	0.12	<0.1	10	<0.2	0.7	8.5	14	1.9	1.4	0.9			1.40
	21/08/2023	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.36
	18/09/2023	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.65
	18/10/2023	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.55
	20/11/2023	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.33
	19/12/2023	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.29
	20/01/2024	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.62
	26/02/2024	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.17
	26/03/2024	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.84
	18/04/2024	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	0.82	42.70
	20/05/2024	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.56
	25/06/2024	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0
	11/07/2024	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.54
	6/08/2024	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	3.96
MW7 Baseline		**4.65 - 5.62**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0**	-	**<0.5**

ATTACHMENT 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/09/2024 - Post Rain	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
SW01 Baseline		**6.20 – 7.00**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/09/2024 - Post Rain	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	
SW02 Baseline		**6.30 – 7.00**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	0.0
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	0.083
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	0.005
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	0.000
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	0.700
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	0.000
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	0.000
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	0.000
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	0.000
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	0.000
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	0.000
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	0.000
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	0.005
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	0.001
	26/02/2024	<0.005	<0.001	<0.0002	14	<0.001	<0.001	0.93	<0.001	4.6	<0.0001	<0.001	1.7	0.048	0.002
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	0.015
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	0.002
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	0.002
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	0.007
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	0.009
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	0.007
	15/09/2024 - Post Rain	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	0.020
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1**
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	0.022
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	0.018
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	0.038
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	0.342
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	3.300
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	0.316
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	0.079
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	0.043
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	0.042
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	0.077
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	0.015
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	0.089
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	0.052
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	0.121
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	0.058
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	0.126
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	0.155
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	0.049
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	0.005
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	0.037
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	0.052
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	0.055
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	0.036
	15/09/2024 - Post Rain	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	0.039
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	15/09/2024 - Post Rain	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	<0.01
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	15/09/2024 - Post Rain	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.60	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/09/2024 - Post Rain	6.30	82	19.00	8.3	120	0.04	0.07	9.50	<0.02	<0.2	9	31	<5	11	
SW03 Baseline		**6.10 - 6.70**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5**
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.68
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.47
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.27
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.46
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.67
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.76
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.47
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.11
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.82
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.04
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.71
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.81
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.67
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.45
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.77
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.91
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.15
	15/09/2024 - Post Rain	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.54
SW04 Baseline		**4.20 – 4.50**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	0.032
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	0.064
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	0.061
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	0.048
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	0.500
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	0.270
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	0.238
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	0.127
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	0.121
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	0.149
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	0.182
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	0.040
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	0.047
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	0.055
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	0.147
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	0.263
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	0.270
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	0.518
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	0.038
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	0.050
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	0.159
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	0.016
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	0.106
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	0.061
	15/09/2024 - Post Rain	1.20	0.00	<0.0002	12	0.00	0.00	2.1	<0.001	2.2	<0.0001	0.004	1.60	0.037	0.100
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1**
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	0.813
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	0.846
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	0.48
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	0.593
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	0.440
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	0.472
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	0.205
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.409
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	0.152
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	0.129
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	0.055
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	0.239
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	0.193
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	0.212
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	0.164
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	0.154
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	0.168
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	0.200
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	0.076
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	0.109
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	0.085
	15/09/2024 - Post Rain	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	0.056
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<0.01
	15/09/2024 - Post Rain	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<0.01
	15/09/2024 - Post Rain	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/09/2024 - Post Rain	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
SW05 Baseline		**5.10 – 7.20**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	0.088
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	0.060
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	0.042
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	0.058
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	0.730
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	0.001
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	0.082
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	0.024
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	0.115
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	0.023
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	0.015
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	0.018
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	0.010
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	0.004
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	0.020
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	0.012
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	0.056
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	0.048
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	0.040
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	0.083
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	0.129
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	0.013
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	0.028
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	0.008
	15/09/2024 - Post Rain	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	0.100
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<0.01
	15/09/2024 - Post Rain	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.00
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/09/2024 - Post Rain	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
SW06 Baseline		-		-		-		-		-		-		-		**<0.5**
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	0.083
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	0.059
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	0.038
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	0.047
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	0.630
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	0.002
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	0.100
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	0.008
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	0.031
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	0.024
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	0.014
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	0.011
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	0.005
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	0.003
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	0.023
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	0.011
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	0.014
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	0.044
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	0.036
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	0.071
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	0.126
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	0.014
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	0.029
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	0.006
	15/09/2024 - Post Rain	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	0.106
SW06 Baseline		-	-		-		-		-		-		<1		
ANZG (2018): 95% Slightly Disturbed		**0.05**	**0.013**	**0.0002**	**-**	**0.0033**	**0.0018**	**0.3**	**0.0034**	**-**	**0.0006**	**0.011**	**-**	**0.008**	

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<0.01
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	15/09/2024 - Post Rain	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW06 Baseline		-		-		-	-	-		-	-
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

ATTACHMENT 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	6/08/2024

Description

Monitoring location SW01.



Photo No.	Date
2	6/08/2024

Description

Monitoring location SW02.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	6/08/2024

Description

Surface water monitoring location SW03.



Photo No.	Date
4	6/08/2024

Description

Surface water monitoring location SW04.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
5	6/08/2024

Description

Surface water monitoring location SW05



Photo No.	Date
6	6/08/2024

Description

Surface water monitoring location SW06



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 11th September 2024

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services

Date:

10/10/2024

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_September_2024

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	23/09/2024	
Reviewed By:	Kingsley Baldwin	10/10/2024	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored, or transmitted in any form without the prior consent of ENV.

ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Attachment 1.

An assessment of the monthly analytical results presented in Attachment 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of TDS, NH_3 and Al.	No site related impacts identified at this monitoring location. All elevated parameters are marginally outside baseline values with the exception of aluminium where no baseline data was recorded. TN returned within baseline values.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location. Aluminium concentrations were marginally outside baseline criteria.
MW4	All parameters were within baseline ranges.	No site related impacts identified at this location. Aluminium concentrations were marginally outside baseline criteria.
MW5	pH, EC, TDS, SO_4 and several cations/anions (Ca, Mg) & Al concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. A review of trends for each of the analytes outside of baseline ranges indicates that a gradual improvement is observed in pH, Na, Ca, Al and Mg.
MW7	All parameters were within baseline ranges with the exception of pH and Al.	No site related impacts identified at this location. pH remaining marginally outside baseline concentrations with fluctuations likely attributed to seasonal variation, whilst aluminium was also observed outside of ANZECC water quality guidelines. SO_4 noted to have returned to within baseline from the previous monitoring round.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance to the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Attachment 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Attachment 3. Select photos of the surface water sampling programme are presented in Attachment 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Attachment 3, identified the following observations:

Site	Observation	Comments
SW01	TSS, TN, Ca and several metals (Al, As, Cr, Fe, Pb, Ni and Zn) were recorded outside of baseline values.	This site is located at an upstream location receiving water from off-site. Elevated analytes at this location are associated with the acid sulfate soil landscape of the Belongil Creek Catchment.
SW02	pH, TDS, EC, SO_4 and several cations/anions (Na, Ca and K) were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site.

Site	Observation	Comments
SW03	pH, TDS, EC, SO_4 and several cations/anions (Na & K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works. Elevated water quality parameters at this site mimic concentrations observed within the upstream monitoring site (SW02) and therefore indicate that there is no observable impact derived from the site.
SW04	pH, TDS, EC, SO_4, several cations/anions (Ca & Mg) and metals (Al, Fe, Ni & Zn) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. A review of trends for each individual analyte exceeding baseline identified gradual improvements in water quality with Na, Ca, Fe, Ni and Zn all trending lower. The Total Recoverable Hydrocarbons (C10-C16 and C10 – C16 (less Naphthalene)) have returned within baseline with no detections this monitoring round or during the post-rain sampling event.
SW05	All parameters were within historic baseline ranges.	No site related impacts identified. The Total Recoverable Hydrocarbons (C10-C16 and C10 – C16 (less Naphthalene) and C34 – C40) have returned within baseline values, with no detections this monitoring round or during the post-rain sampling event.
SW06	pH, TN, Al, Fe and Zn were outside ANZG default guideline values (95% for slightly disturbed river systems).	No site related impacts observed. Although concentrations are outside of the ANZG (2018) criteria (95% for slightly disturbed river systems) all the reported concentration are within background concentrations measured at location SW05 which is located approximately 500m upstream of the SW06. Given all values fall within the upstream baseline ranges recorded at SW05, no definitive degradation in water quality is observed between the two locations.

3 RAINFALL

During this monitoring period (6/08/2024 - 11/09/2024), 198.8 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), with water quality remaining poor at this location. Whereas poor water quality reported at SW03 are in-line with upstream (SW02) water quality with no discernible site related impacts observed.

Although water quality remains poor at SW04, a trend assessment of individual analytes at this site indicates an overall gradual improvement in water quality.

Hydrocarbon concentrations identified in the August monitoring round (SW03, SW04 and SW05) has not had an ongoing impact.

To mitigate poor surface water quality within the southern swale drain (SW04), routine monthly lime applications are required to continue to buffer acidic waters within the drainage network until acid generation has been depleted.

Water quality within the groundwater monitoring network continues to indicate localised impact from acid sulfate soils adjacent to MW5. It remains postulated that fill emplacement and the cutting of underground services proximal to the well has subjected this location to acid sulfate soil impacts.

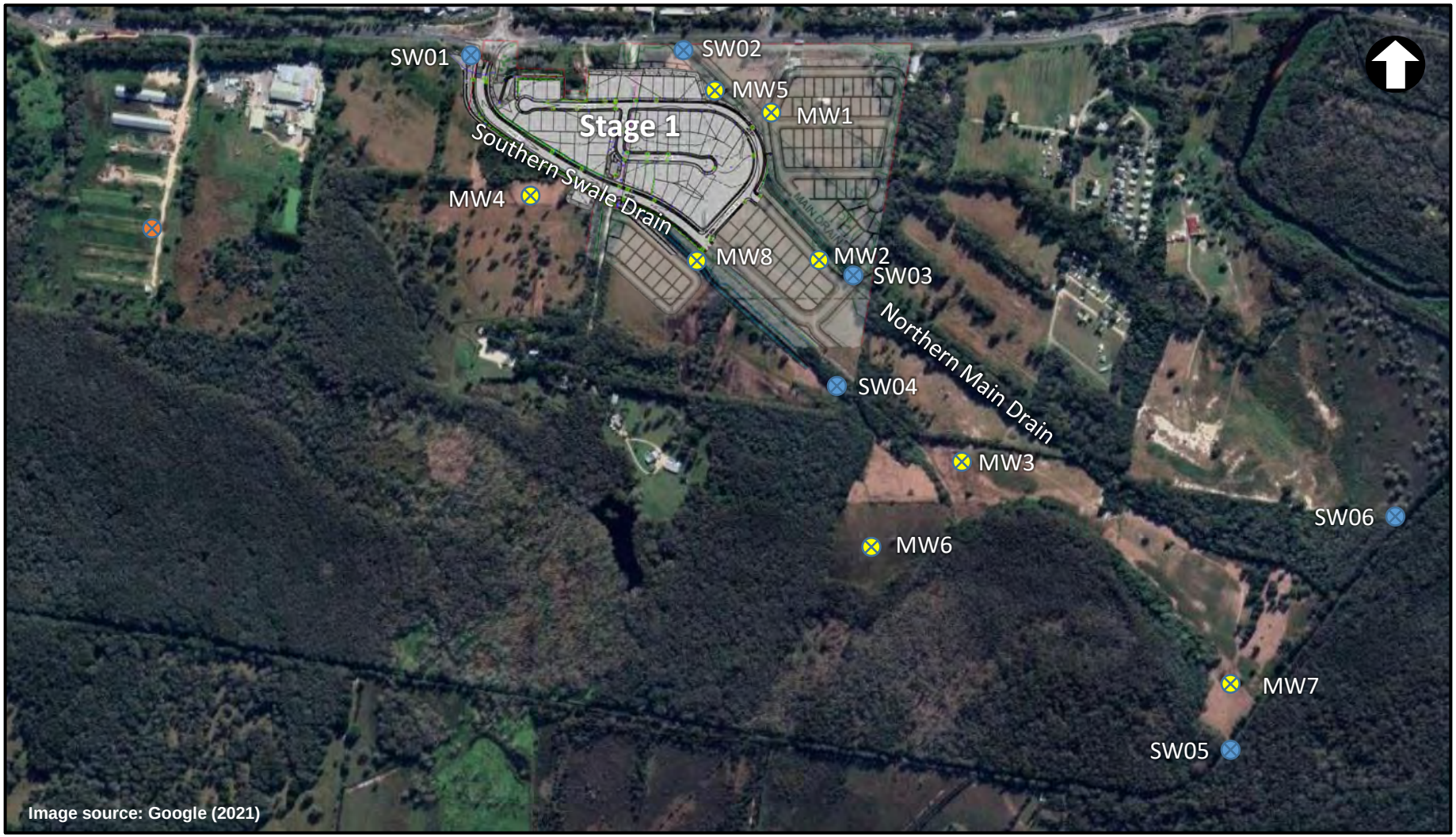
4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site.

Continue routine monthly ag-lime dusting of the southern drainage network should continue until acid generation has been exhausted.

ATTACHMENT 1

Figures



Site Location (Stage 1)

Surface Water Sampling Locations

Ground Water Sampling Locations

0 0.1 0.2km

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Figure 1: Water Quality Sampling Locations
Harvest Estate – Stage 1

ATTACHMENT 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/2022	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.07
	20/10/2022	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.08
	14/11/2022	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.05
	14/12/2022	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.33
	18/01/2023	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.41
	20/02/2023	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.14
	28/03/2023	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.48
	18/04/2023	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.35
	18/05/2023	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.16
	25/06/2023	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.44
	24/07/2023	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.00
	21/08/2023	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.15
	18/09/2023	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.08
	18/10/2023	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.20
	20/11/2023	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.26
	19/12/2023	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.13
	20/01/2024	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.08
	26/02/2024	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.93
	26/03/2024	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.43
	18/04/2024	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/2024	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.15
	25/06/2024	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.04
	10/07/2024	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.15
	6/08/2024	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.17
	9/11/2024	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.05
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0**	**-**	**<0.5**
MW3	29/09/2022	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.11
	20/10/2022	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.13
	14/11/2022	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.14
	14/12/2022	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.19
	18/01/2023	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.00
	20/02/2023	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.15
	28/03/2023	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.28
	18/04/2023	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.45
	18/05/2023	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.36
	15/06/2023	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.45
	24/07/2023	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.26
	21/08/2023	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.48
	18/09/2023	Dry – no sample collected																
	18/10/2023	Dry – no sample collected																
	20/11/2023	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.64
	19/12/2023	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.43
	20/01/2024	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.19
	26/02/2024	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.45
	26/03/2024	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.20
	18/04/2024	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.26
	20/05/2024	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.13
	25/06/2024	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.09
	10/07/2024	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.60
	6/08/2024	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.23
	11/09/2024	4.2	44	28	720	0.02	<0.1	5	<0.2	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.20
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0**	**-**	**<0.5**

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4	29/09/2022	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.05
	20/10/2022	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.05
	14/11/2022	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.17
	14/12/2022	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.34
	18/01/2023	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.25
	20/02/2023	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.39
	28/03/2023	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.21
	18/04/2023	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.81
	18/05/2023	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.71
	15/06/2023	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.41
	24/07/2023	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.71
	21/08/2023	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.20
	18/09/2023	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.53
	18/10/2023	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.37
	20/11/2023	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.26
	19/12/2023	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.34
	20/01/2024	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.12
	26/02/2024	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.41
	26/03/2024	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.28
	18/04/2024	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.39
	20/05/2024	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.37
	25/06/2024	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.15
	10/07/2024	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.46
	6/08/2024	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.21
	11/09/2024	5.2	110	74	27	0.02	0.14	21	<0.2	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.12
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0**	**-**	**<0.5**
MW5	29/09/2022	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.06
	20/10/2022	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.07
	14/11/2022	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.03
	14/12/2022	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.33
	18/01/2023	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.15
	20/02/2023	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.78
	28/03/2023	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.29
	18/04/2023	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.36
	18/05/2023	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.67
	15/06/2023	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.00
	24/07/2023	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.27
	21/08/2023	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.84
	18/09/2023	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.31
	18/10/2023	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.24
	20/11/2023	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.00
	19/12/2023	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.75
	20/01/2024	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.23
	26/02/2024	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.00
	26/03/2024	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.57
	18/04/2024	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.35
	20/05/2024	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.72
	25/06/2024	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.42
	11/07/2024	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.71
	6/08/2024	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.06
	11/09/2024	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.78
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0**	**-**	**<0.5**

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	29/09/2022	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.12
	20/10/2022	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.08
	14/11/2022	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.10
	14/12/2022	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.33
	18/01/2023	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.13
	20/02/2023	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.63
	28/03/2023	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.14
	18/04/2023	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.91
	18/05/2023	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.85
	15/06/2023	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.64
	24/07/2023	5.1	140	100	90	0.12	<0.1	10	<0.2	0.7	8.5	14	1.9	1.4	0.9			1.40
	21/08/2023	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.36
	18/09/2023	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.65
	18/10/2023	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.55
	20/11/2023	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.33
	19/12/2023	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.29
	20/01/2024	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.62
	26/02/2024	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.17
	26/03/2024	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.84
	18/04/2024	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	0.82	42.70
	20/05/2024	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.56
	25/06/2024	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0
	11/07/2024	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.54
	6/08/2024	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	3.96
	11/09/2024	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.47
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0**	**-**	**<0.5**

ATTACHMENT 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	0.00014
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	0.08333
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	0.00464
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	0.00001
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	0.70000
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	0.00016
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	0.00001
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	0.00015
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	0.00009
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	0.00001
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	0.00023
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	0.00006
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	0.005
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	0.0008
	26/02/2024	<0.005	<0.001	<0.0002	14	<0.001	<0.001	0.93	<0.001	4.6	<0.0001	<0.001	1.7	0.048	0.0018
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	0.0149
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	0.0019
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	0.0023
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	0.0073
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	0.0089
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	0.0071
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	0.0200
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	0.2528
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	0.022
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	0.018
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	0.038
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	0.342
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	3.300
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	0.316
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	0.079
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	0.043
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	0.042
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	0.077
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	0.015
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	0.089
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	0.052
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	0.121
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	0.058
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	0.126
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	0.155
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	0.049
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	0.005
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	0.037
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	0.052
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	0.055
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	0.036
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	0.039
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	0.010
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	<0.01
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	0.032
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	0.064
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	0.061
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	0.048
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	0.500
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	0.270
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	0.238
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	0.127
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	0.121
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	0.149
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	0.182
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	0.040
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	0.047
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	0.055
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	0.147
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	0.263
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	0.270
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	0.518
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	0.038
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	0.050
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	0.159
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	0.016
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	0.106
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	0.061
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	0.100
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	0.028
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<0.01
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.68
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.47
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.27
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.46
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.67
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.76
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.47
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.11
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.82
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.04
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.71
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.81
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.67
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.45
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.77
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.91
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.15
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.54
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.83
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	0.813
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	0.846
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	0.48
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	0.593
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	0.440
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	0.472
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	0.205
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.409
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	0.152
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	0.129
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	0.055
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	0.239
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	0.193
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	0.212
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	0.164
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	0.154
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	0.168
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	0.200
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	0.076
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	0.109
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	0.085
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	0.056
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	0.064
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<0.01
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	0.088
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	0.060
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	0.042
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	0.058
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	0.730
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	0.001
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	0.082
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	0.024
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	0.115
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	0.023
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	0.015
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	0.018
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	0.010
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	0.004
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	0.020
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	0.012
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	0.056
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	0.048
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	0.040
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	0.083
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	0.129
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	0.013
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	0.028
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	0.008
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	0.100
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	0.037
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<0.01
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	0.083
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	0.059
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	0.038
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	0.047
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	0.630
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	0.002
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	0.100
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	0.008
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	0.031
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	0.024
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	0.014
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	0.011
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	0.005
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	0.003
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	0.023
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	0.011
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	0.014
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	0.044
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	0.036
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	0.071
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	0.126
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	0.014
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	0.029
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	0.006
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	0.106
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	0.033
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	**-**	**0.0033**	**0.0018**	**0.3**	**0.0034**	**-**	**0.0006**	**0.011**	**-**	**0.008**	

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<0.01
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<0.01
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<0.01
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<0.01
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

ATTACHMENT 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	11/09/2024

Description

Monitoring location SW01.



Photo No.	Date
2	11/09/2024

Description

Monitoring location SW02.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	11/09/2024

Description

Surface water monitoring location SW03.



Photo No.	Date
4	11/09/2024

Description

Surface water monitoring location SW04.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
5	11/09/2024

Description

Surface water monitoring location SW05



Photo No.	Date
6	11/09/2024

Description

Surface water monitoring location SW06



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 9th October 2024

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services

Date:

28/10/2024

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_October_2024

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	25/10/2024	
Reviewed By:	Kingsley Baldwin	28/10/2024	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored, or transmitted in any form without the prior consent of ENV.

ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Attachment 1.

An assessment of the monthly analytical results presented in Attachment 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of pH, TDS, Na and Al.	No site related impacts identified at this monitoring location. All elevated parameters are marginally outside baseline values with the exception of aluminium where no baseline data was recorded.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location. Aluminium concentrations have returned within baseline values from the previous monitoring round.
MW4	All parameters were within baseline ranges with the exception of Al.	No site related impacts identified at this location. Aluminium concentrations were marginally outside criteria specified in the National Acid Sulfate Soils Guidance.
MW5	pH, EC, TDS, SO_4 and several cations/anions (Ca, Mg) & Al concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. Trends for each of the analytes outside of baseline ranges continue to indicate gradual improvements in water quality with EC, TDS, SO_4, Ca, Al and Mg trending lower whilst pH has stabilised.
MW7	All parameters were within baseline ranges with the exception of pH.	No site related impacts identified at this location. pH remaining marginally outside baseline concentrations with fluctuations likely attributed to seasonal variation. Aluminium has returned to be within baseline values.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Attachment 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Attachment 3. Select photos of the surface water sampling programme are presented in Attachment 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Attachment 3, identified the following observations:

Site	Observation	Comments
SW01	pH and metals Ca and Fe were recorded outside of baseline values.	This site is located at an upstream location receiving water from off-site. Elevated analytes at this location are associated with the acid sulfate soil landscape of the Belongil Creek Catchment.
SW02	TDS, EC, SO_4 and several cations/anions (Na, Ca and K) were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site.

Site	Observation	Comments
SW03	TDS, EC, SO_4, TN and several cations/anions (Na & K) and metals (Al, Cr, Ni and K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works. Elevated water quality parameters at this site show association with concentrations observed within the upstream monitoring site (SW02) and therefore indicate that there is no observable impact derived from the site. Elevated metals concentrations do not correlate with improved pH and subsequently are being reanalysed. Revised values shall be provided in the next report due in November.
SW04	pH, TDS, EC, SO_4, several cations/anions (Na, Ca & Mg) and metals (Al, Fe, Ni & Zn) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values.
SW05	All parameters were within historic baseline ranges.	No site related impacts identified.
SW06	TN and metals (Al, Fe and Zn) were outside ANZG default guideline values (95% for slightly disturbed river systems).	No site related impacts observed. Although concentrations are outside of the ANZG (2018) criteria (95% for slightly disturbed river systems) all the reported concentration are within background concentrations measured at location SW05 which is located approximately 500m upstream of the SW06. Given all values fall within the upstream baseline ranges recorded at SW05, no definitive degradation in water quality is observed between the two locations.

3 RAINFALL

During this monitoring period (11/09/2024 – 09/10/2024), 162.8 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), with water quality remaining poor at this location. Whereas poor water quality reported at SW03 are in-line with upstream (SW02) water quality with no discernible site related impacts observed.

To mitigate poor surface water quality within the southern swale drain (SW04), routine monthly lime applications are required to continue to buffer acidity within the drainage network until acid generation has been depleted.

An additional surface water investigation was conducted at the site on 24th September in response to concerns of potential hydrocarbon impact from stormwater infrastructure upstream of SW01. The surface water investigation conducted by ENV did not identify any contamination. However, it is noted that routine culvert clearing surrounding the site has the potential to impact receiving water quality. A letter detailing the additional surface water investigation is presented as Attachment 5.

Water quality within the groundwater monitoring network continues to indicate localised impact from acid sulfate soils adjacent to MW5. It remains postulated that fill emplacement and the cutting of underground services proximal to the well has subjected this location to acid sulfate soil impacts.

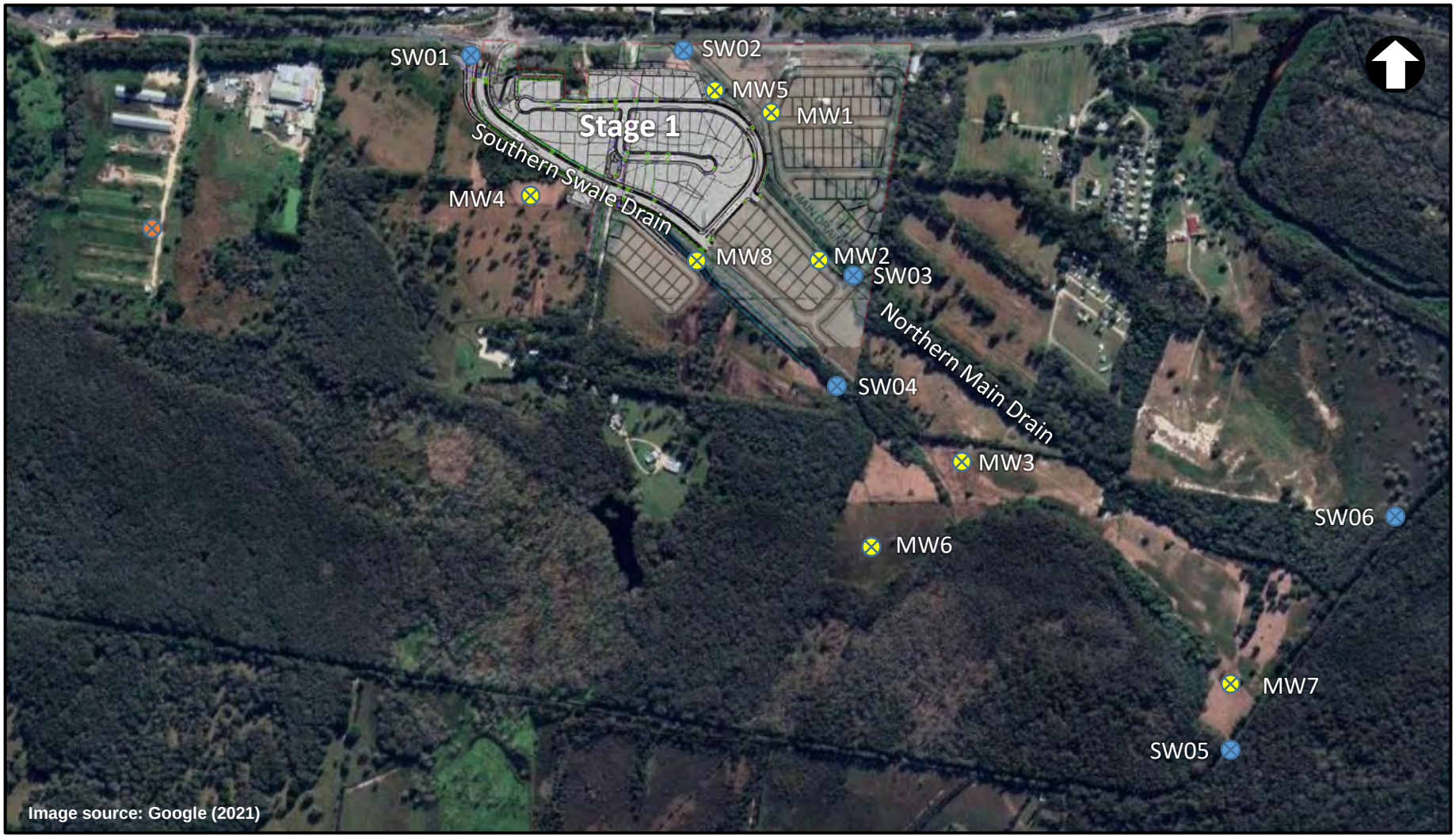
4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site.

Continue routine monthly ag-lime dusting of the southern drainage network should continue until acid generation has been exhausted.

ATTACHMENT 1

Figures



Site Location (Stage 1)

Surface Water Sampling Locations

Ground Water Sampling Locations

0 0.1 0.2km

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ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

Figure 1: Water Quality Sampling Locations
Harvest Estate – Stage 1

ATTACHMENT 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/2022	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.07
	20/10/2022	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.08
	14/11/2022	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.05
	14/12/2022	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.33
	18/01/2023	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.41
	20/02/2023	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.14
	28/03/2023	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.48
	18/04/2023	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.35
	18/05/2023	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.16
	25/06/2023	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.44
	24/07/2023	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.00
	21/08/2023	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.15
	18/09/2023	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.08
	18/10/2023	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.20
	20/11/2023	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.26
	19/12/2023	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.13
	20/01/2024	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.08
	26/02/2024	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.93
	26/03/2024	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.43
	18/04/2024	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/2024	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.15
	25/06/2024	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.04
	10/07/2024	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.15
	6/08/2024	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.17
	11/09/2024	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.05
	9/10/2024	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.06
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0**	**-**	**<0.5**
MW3	29/09/2022	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.11
	20/10/2022	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.13
	14/11/2022	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.14
	14/12/2022	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.19
	18/01/2023	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.00
	20/02/2023	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.15
	28/03/2023	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.28
	18/04/2023	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.45
	18/05/2023	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.36
	15/06/2023	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.45
	24/07/2023	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.26
	21/08/2023	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.48
	18/09/2023	Dry – no sample collected																
	18/10/2023	Dry – no sample collected																
	20/11/2023	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.64
	19/12/2023	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.43
	20/01/2024	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.19
	26/02/2024	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.45
	26/03/2024	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.20
	18/04/2024	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.26
	20/05/2024	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.13
	25/06/2024	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.09
	10/07/2024	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.60
	6/08/2024	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.23
	11/09/2024	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.20
	9/10/2024	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.19
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0**	**-**	**<0.5**

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4	29/09/2022	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.05
	20/10/2022	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.05
	14/11/2022	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.17
	14/12/2022	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.34
	18/01/2023	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.25
	20/02/2023	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.39
	28/03/2023	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.21
	18/04/2023	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.81
	18/05/2023	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.71
	15/06/2023	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.41
	24/07/2023	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.71
	21/08/2023	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.20
	18/09/2023	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.53
	18/10/2023	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.37
	20/11/2023	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.26
	19/12/2023	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.34
	20/01/2024	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.12
	26/02/2024	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.41
	26/03/2024	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.28
	18/04/2024	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.39
	20/05/2024	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.37
	25/06/2024	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.15
	10/07/2024	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.46
	6/08/2024	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.21
	11/09/2024	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.12
	9/10/2024	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.25
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0**	**-**	**<0.5**
MW5	29/09/2022	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.06
	20/10/2022	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.07
	14/11/2022	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.03
	14/12/2022	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.33
	18/01/2023	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.15
	20/02/2023	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.78
	28/03/2023	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.29
	18/04/2023	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.36
	18/05/2023	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.67
	15/06/2023	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.00
	24/07/2023	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.27
	21/08/2023	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.84
	18/09/2023	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.31
	18/10/2023	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.24
	20/11/2023	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.00
	19/12/2023	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.75
	20/01/2024	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.23
	26/02/2024	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.00
	26/03/2024	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.57
	18/04/2024	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.35
	20/05/2024	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.72
	25/06/2024	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.42
	11/07/2024	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.71
	6/08/2024	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.06
	11/09/2024	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.78
	9/10/2024	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.22
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0**	**-**	**<0.5**

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	29/09/2022	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.12
	20/10/2022	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.08
	14/11/2022	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.10
	14/12/2022	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.33
	18/01/2023	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.13
	20/02/2023	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.63
	28/03/2023	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.14
	18/04/2023	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.91
	18/05/2023	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.85
	15/06/2023	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.64
	24/07/2023	5.1	140	100	90	0.12	<0.1	10	<0.2	0.7	8.5	14	1.9	1.4	0.9			1.40
	21/08/2023	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.36
	18/09/2023	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.65
	18/10/2023	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.55
	20/11/2023	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.33
	19/12/2023	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.29
	20/01/2024	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.62
	26/02/2024	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.17
	26/03/2024	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.84
	18/04/2024	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	0.82	42.70
	20/05/2024	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.56
	25/06/2024	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0
	11/07/2024	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.54
	6/08/2024	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	3.96
	11/09/2024	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.47
	9/10/2024	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.50
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0**	**-**	**<0.5**

ATTACHMENT 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	0.00014
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	0.08333
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	0.00464
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	0.00001
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	0.70000
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	0.00016
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	0.00001
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	0.00015
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	0.00009
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	0.00001
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	0.00023
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	0.00006
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	0.005
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	0.0008
	26/02/2024	<0.005	<0.001	<0.0002	14	<0.001	<0.001	0.93	<0.001	4.6	<0.0001	<0.001	1.7	0.048	0.0018
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	0.0149
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	0.0019
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	0.0023
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	0.0073
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	0.0089
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	0.0071
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	0.0200
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	0.2528
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	0.0052
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	0.022
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	0.018
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	0.038
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	0.342
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	3.300
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	0.316
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	0.079
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	0.043
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	0.042
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	0.077
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	0.015
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	0.089
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	0.052
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	0.121
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	0.058
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	0.126
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	0.155
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	0.049
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	0.005
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	0.037
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	0.052
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	0.055
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	0.036
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	0.039
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	0.010
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	0.035
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	0.032
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	0.064
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	0.061
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	0.048
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	0.500
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	0.270
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	0.238
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	0.127
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	0.121
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	0.149
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	0.182
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	0.040
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	0.047
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	0.055
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	0.147
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	0.263
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	0.270
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	0.518
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	0.038
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	0.050
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	0.159
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	0.016
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	0.106
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	0.061
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	0.100
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	0.028
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	0.952
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.68
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.47
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.27
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.46
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.67
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.76
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.47
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.11
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.82
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.04
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.71
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.81
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.67
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.45
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.77
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.91
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.15
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.54
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.83
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.00
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	0.813
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	0.846
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	0.48
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	0.593
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	0.440
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	0.472
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	0.205
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.409
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	0.152
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	0.129
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	0.055
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	0.239
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	0.193
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	0.212
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	0.164
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	0.154
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	0.168
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	0.200
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	0.076
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	0.109
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	0.085
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	0.056
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	0.064
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	0.100
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	0.088
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	0.060
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	0.042
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	0.058
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	0.730
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	0.001
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	0.082
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	0.024
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	0.115
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	0.023
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	0.015
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	0.018
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	0.010
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	0.004
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	0.020
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	0.012
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	0.056
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	0.048
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	0.040
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	0.083
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	0.129
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	0.013
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	0.028
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	0.008
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	0.100
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	0.037
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	0.071
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	0.083
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	0.059
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	0.038
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	0.047
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	0.630
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	0.002
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	0.100
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	0.008
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	0.031
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	0.024
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	0.014
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	0.011
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	0.005
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	0.003
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	0.023
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	0.011
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	0.014
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	0.044
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	0.036
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	0.071
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	0.126
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	0.014
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	0.029
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	0.006
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	0.106
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	0.033
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	0.070
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	-	**0.0033**	**0.0018**	**0.3**	**0.0034**	-	**0.0006**	**0.011**	-	**0.008**	

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

ATTACHMENT 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	9/10/2024

Description

Monitoring location SW02.



Photo No.	Date
2	9/10/2024

Description

Surface water monitoring location SW03.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	9/10/2024

Description

Surface water monitoring location SW04.



Photo No.	Date
4	9/10/2024

Description

Surface water monitoring location SW05



ATTACHMENT 5

Additional Surface Water Investigation

14 Oct 2024

Planit Consulting
Attn: Ben Gohl
PO Box 161, Lennox Head
New South Wales 2478

Dear Giuseppe,

Re: September Additional Surface Water Testing| Water Influence from off-site

On 23 September 2024, Planit Consulting's Senior Project Engineer Giuseppe Fallara, informed ENV of potentially contaminated surface water entering Harvest Estate (the site) from existing stormwater infrastructure located on the northwestern margin of the site.

It is understood, that following routine maintenance (jetting) of Council stormwater infrastructure, a sludge emanating a hydrocarbon odour with an observable slick on the water surface was noted to rise up from the outlet of a stormwater culvert along the northern margin of the road corridor (Ewingsdale Road) adjacent to Lot 7 DP740761.

At the request of Planit Consulting, ENV were commissioned to conduct a surface water investigation to assess for potential impact at the site and within the Harvest Estate located downstream of the area of concern. The inspection and subsequent sampling round were undertaken on 24 September 2024. At this time of the inspection, evidence of visual and olfactory factors purporting to potential hydrocarbon contamination at the point of influence (UP_AEC) appeared to have dispersed. Photos from the investigation are presented as Attachment 1.

Three water samples were collected as part of the investigation to assess for hydrocarbons and metals. These samples were collected from the point of influence (UP_AEC), and at two downstream water quality monitoring sites (SW01 & SW04) which form part of the Harvest Estate's routine surface water quality monitoring programme, located within the Harvest Estate. Sample locations are presented as Figure 2, Attachment 2.

It is noted that the samples collected present the surface water conditions at the time of sampling, and that water quality within the subject environment is subject to variation overtime due to meteoric and anthropological influences.

Once collected, samples were placed in a chilled esky and sent by courier for analysis at NATA accredited laboratory (SGS, Sydney) within the holding times for the analytes.

Samples were analysed for the presence of total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, ethylbenzene, xylenes (BETXN) metals and physiochemical parameters.

Results are presented as Attachment 3.

Results returned concentrations of TRHs, PAHs and BETXN all bellow the limit of reporting (LOR).

Metals and physiochemical parameters were noted to be within historical baseline ranges for the site.

The surface water investigation conducted by ENV did not identify contamination. Ongoing monitoring as per monthly requirements at the site will identify any potential ongoing impacts at the site, which given the results of the investigation, are considered unlikely.

Laboratory results from the investigation shall be presented in the October instalment of the monthly West Byron Water Quality Report.

Yours sincerely,



Jemma Attkins
Environmental Scientist

Attachment 1 – Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	24/09/2024

Description

Point of influence (UP_AEC1) adjacent to Ewingsdale Road.

Previously identified sludge had dispersed. Image shows water to be highly turbid, no sheen present.



Photo No.	Date
2	24/09/2024

Description

Additional image of UP_AEC.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	24/09/2024

Description

Surface water monitoring location SW01, downstream of UP_AEC.

No indicators of contamination were identified.



Attachment 2 – Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Surface Water Investigation
Client: Planit
ENV Project Number: 217140



ENV Solutions
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

Figure 2 – West Byron Surface Water Sample Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Surface Water Investigation
Client: Planit
ENV Project Number: 217140

Image source: BSC LEP (2023)

Attachment 3 - Laboratory Documentation

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Jemma Attkins
Client	ENV Solutions Pty Ltd
Address	PO BOX 248 BALLINA NSW 2478
Telephone	61 3 00861325
Facsimile	(Not specified)
Email	Jemma.attkins@envsolutions.com.au
Project	**217140 ENV S-IE-MAY24-1703150v2**
Order Number	**217140**
Samples	3

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE271609 R0**
Date Received	26/9/2024
Date Reported	3/10/2024

COMMENTS

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

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Teresa NGUYEN
Organic Chemist

Ying Ying ZHANG
Laboratory Technician

VOCs in Water [AN433] Tested: 1/10/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
Benzene	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3
Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	<0.5

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 1/10/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
TRH C6-C9	µg/L	40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 30/9/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
TRH C10-C14	µg/L	50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500
TRH C10-C40	µg/L	320	<320	<320	<320

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 30/9/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
Naphthalene	µg/L	0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	<0.1
Total PAH (18)	µg/L	1	<1	<1	<1

OC Pesticides in Water [AN420] Tested: 30/9/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
Hexachlorobenzene (HCB)	µg/L	0.1	<0.1	<0.1	<0.1
Alpha BHC	µg/L	0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	µg/L	0.1	<0.1	<0.1	<0.1
Heptachlor	µg/L	0.1	<0.1	<0.1	<0.1
Aldrin	µg/L	0.1	<0.1	<0.1	<0.1
Beta BHC	µg/L	0.1	<0.1	<0.1	<0.1
Delta BHC	µg/L	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	µg/L	0.1	<0.1	<0.1	<0.1
o,p'-DDE	µg/L	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	µg/L	0.1	<0.1	<0.1	<0.1
Gamma Chlordane	µg/L	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	µg/L	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	µg/L	0.1	<0.1	<0.1	<0.1
p,p'-DDE	µg/L	0.1	<0.1	<0.1	<0.1
Dieldrin	µg/L	0.1	<0.1	<0.1	<0.1
Endrin	µg/L	0.1	<0.1	<0.1	<0.1
o,p'-DDD	µg/L	0.1	<0.1	<0.1	<0.1
o,p'-DDT	µg/L	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	µg/L	0.1	<0.1	<0.1	<0.1
p,p'-DDD	µg/L	0.1	<0.1	<0.1	<0.1
p,p'-DDT	µg/L	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	µg/L	0.1	<0.1	<0.1	<0.1
Endrin aldehyde	µg/L	0.1	<0.1	<0.1	<0.1
Methoxychlor	µg/L	0.1	<0.1	<0.1	<0.1
Endrin ketone	µg/L	0.1	<0.1	<0.1	<0.1
Isodrin	µg/L	0.1	<0.1	<0.1	<0.1
Mirex	µg/L	0.1	<0.1	<0.1	<0.1
Total OC	µg/L	1	<1	<1	<1
Total OC	µg/L	1	<1	<1	<1

OP Pesticides in Water [AN420] Tested: 30/9/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
Dichlorvos	µg/L	0.5	<0.5	<0.5	<0.5
Dimethoate	µg/L	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	µg/L	0.5	<0.5	<0.5	<0.5
Fenitrothion	µg/L	0.2	<0.2	<0.2	<0.2
Malathion	µg/L	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	µg/L	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	µg/L	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	µg/L	0.2	<0.2	<0.2	<0.2
Methidathion	µg/L	0.5	<0.5	<0.5	<0.5
Ethion	µg/L	0.2	<0.2	<0.2	<0.2
Azinphos-methyl	µg/L	0.2	<0.2	<0.2	<0.2

pH in water [AN101] Tested: 27/9/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
pH**	No unit	-	**7.1**	**6.3**	**3.5**

Conductivity and TDS by Calculation - Water [AN106] Tested: 27/9/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
Conductivity @ 25 C	µS/cm	2	**340**	**280**	**1300**
Total Dissolved Solids (by calculation)	mg/L	2	**200**	**170**	**750**

Alkalinity [AN135] Tested: 30/9/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
Bicarbonate Alkalinity as CaCO3	mg/L	5	**140**	**7**	<5
Carbonate Alkalinity as CaCO3	mg/L	1	<1	<1	<1
Hydroxide Alkalinity as CaCO3	mg/L	5	<5	<5	<5
Phenolphthalein Alkalinity as CaCO3*	mg/L	5	<5	<5	<5
Total Alkalinity as CaCO3	mg/L	5	**140**	**7**	<5

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 1/10/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
Arsenic	µg/L	1	**2**	<1	<1
Cadmium	µg/L	0.1	<0.1	<0.1	<0.1
Chromium	µg/L	1	<1	<1	<1
Copper	µg/L	1	**2**	**1**	**1**
Lead	µg/L	1	<1	<1	<1
Nickel	µg/L	1	**3**	**4**	**32**
Zinc	µg/L	5	**28**	**40**	**43**

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 30/9/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001

Acidity and Free CO2 [AN140] Tested: 27/9/2024

PARAMETER	UOM	LOR	UP_AEC WATER - 24/9/2024 SE271609.001	SW01 WATER - 24/9/2024 SE271609.002	SW04 WATER - 24/9/2024 SE271609.003
Acidity to pH 8.3	mg CaCO3/L	5	**22**	**14**	**120**

METHOD	METHODOLOGY SUMMARY
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
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 µmhos /cm or µS/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.
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.
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).
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). Where F2 is corrected for Naphthalene, the VOC data for Naphthalene is used.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoveerable Hydrocarbons - Silica (TRH-Silica) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting .
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
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.

FOOTNOTES

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

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

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

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

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

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

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

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

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

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source: Sydney.pdf page: 1 SGS Ref: SE271609_COC

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST

Page ____ of ____

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	ENV Solutions	Project Name/No:	217140
Address:	313 River Street, Ballina NSW 478	Purchase Order No:	ENV S-IE-MAY24-1703150v2
		Results Required By:	
		Telephone:	0492847949
Contact Name:	Jemma Attkins	Facsimile:	
		Email Results:	Jemma.attkins@envsolutions.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL10+SV3	WQ2
UP_AEC	24/09/24	1		X		7	X	X
SW01	24/09/24	2		X		7	X	X
SW04	24/09/24	3		X		7	X	X

SGS EHS Sydney COC
SE271609

Relinquished By:	Date/Time:	Received By: P. Rubano	Date/Time 26/09/24 @ 11:05
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: (Yes)/ No	Temperature: Ambient / (Chilled)	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments:		

SAMPLE RECEIPT ADVICE

SE271609

CLIENT DETAILS

Contact	Jemma Attkins
Client	ENV Solutions Pty Ltd
Address	PO BOX 248 BALLINA NSW 2478
Telephone	61 3 00861325
Facsimile	(Not specified)
Email	Jemma.attkins@envsolutions.com.au
Project	**217140 ENV S-IE-MAY24-1703150v2**
Order Number	**217140**
Samples	3

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Thu 26/9/2024
Report Due	Thu 3/10/2024
SGS Reference	**SE271609**

SUBMISSION DETAILS

This is to confirm that 3 samples were received on Thursday 26/9/2024. Results are expected to be ready by COB Thursday 3/10/2024. Please quote SGS reference SE271609 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	3 Water	Type of documentation received	COC
Date documentation received	26/9/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	6.4°C
Sample container provider	Other Lab	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

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

SE271609

CLIENT DETAILS

Client ENV Solutions Pty Ltd

Project 217140 ENV S-IE-MAY24-1703150v2

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Water	OC Pesticides in Water	OP Pesticides in Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	pH in water	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	UP_AEC	2	30	13	22	1	9	11	7
002	SW01	2	30	13	22	1	9	11	7
003	SW04	2	30	13	22	1	9	11	7

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

SE271609

CLIENT DETAILS

Client ENV Solutions Pty Ltd

Project 217140 ENV S-IE-MAY24-1703150v2

SUMMARY OF ANALYSIS

No.	Sample ID	Acidity and Free CO2	Alkalinity	Mercury (dissolved) in Water	Trace Metals (Dissolved) in Water by ICPMS
001	UP_AEC	1	5	1	7
002	SW01	1	5	1	7
003	SW04	1	5	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 .

MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 6th November 2024

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

26/11/2024

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

T: 1300 861 325

E: admin@envsolutions.com.au

www.envsolutions.com.au

DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_November_2024

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	22/11/2024	
Reviewed By:	Kingsley Baldwin	26/11/2024	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

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ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Attachment 1.

An assessment of the monthly analytical results presented in Attachment 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of TDS, TN, Na, Ca and Al.	No site related impacts identified at this monitoring location. All elevated parameters are marginally outside baseline values with the exception of aluminium where no baseline data was recorded. pH has returned within baseline values from the previous monitoring round.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges with the exception of TP & Al.	No site related impacts identified at this location. Aluminium concentrations remain marginally outside criteria specified in the National Acid Sulfate Soils Guidance.
MW5	pH, EC, TDS, SO_4 and several cations/anions (Na, Ca, Mg) & Al concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. Overall water quality at MW5 has deteriorated since the previous monitoring round however the long term trends for each of the analytes is showing improvement.
MW7	All parameters were within baseline ranges with the exception of pH and Al.	No site related impacts identified at this location. pH remaining marginally outside baseline concentrations and has improved from the previous monitoring round.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Attachment 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Attachment 3. Select photos of the surface water sampling programme are presented in Attachment 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Attachment 3, identified the following observations:

Site	Observation	Comments
SW01	pH, TSS, TP, and metals (Al, Ca Cr & Fe) were recorded outside of baseline values.	This site is located at an upstream location receiving water from off-site. Elevated analytes at this location are associated with the acid sulfate soil landscape of the Belongil Creek Catchment.
SW02	pH, TDS, EC, SO_4 and several cations/anions (Na, Ca, Mg and K) were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site.

Site	Observation	Comments
SW03	pH, TDS, EC, SO_4 and several cations/anions (Na & K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works. Elevated water quality parameters at this site remain similar to the concentrations observed within the upstream monitoring site (SW02) and therefore indicate that there is no observable impact derived from the site. pH is increasing indicating effects of application of ag-lime whilst chromium, nickel and aluminium have returned to within baseline from the previous monitoring round.
SW04	pH, TDS, EC, SO_4, several cations/anions (Al, Na, Ca & Ni and Zn) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. Surface water at SW04 is consistently observed to be stagnant. This stagnation influences the accumulation of metals and cations/anions at this location. As such, impacts are likely to be exacerbated.
SW05	All parameters were within historic baseline ranges.	No site related impacts identified.
SW06	EC and metals (Al, Fe and Zn) were outside ANZG default guideline values (95% for slightly disturbed river systems).	No site related impacts observed. Although concentrations are outside of the ANZG (2018) criteria (95% for slightly disturbed river systems) all the reported concentration are within background concentrations measured at location SW05 which is located approximately 500m upstream of the SW06. Given all values fall within the upstream baseline ranges recorded at SW05, no definitive degradation in water quality is observed between the two locations.

3 RAINFALL

During this monitoring period (09/10/2024 – 06/11/2024), 83.8 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), with water quality remaining poor at this location. Whereas water quality reported at SW03 is in-line with upstream (SW02) water quality with no discernible site related impacts observed.

The limited or absent flow of surface water at SW04 likely contributes to poor water quality. The acidic conditions at this location promote the accumulation of metal cations and anions, resulting in the observed high concentrations.

Water quality within the groundwater monitoring network continues to indicate localised impact from acid sulfate soils adjacent to MW5. It remains postulated that the instalment of underground services proximal to the well has subjected this location to acid sulfate soil impacts.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site.

Continue routine monthly ag-lime dusting of the southern drainage network until acid generation has been exhausted.

ATTACHMENT 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

ENV Solutions
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

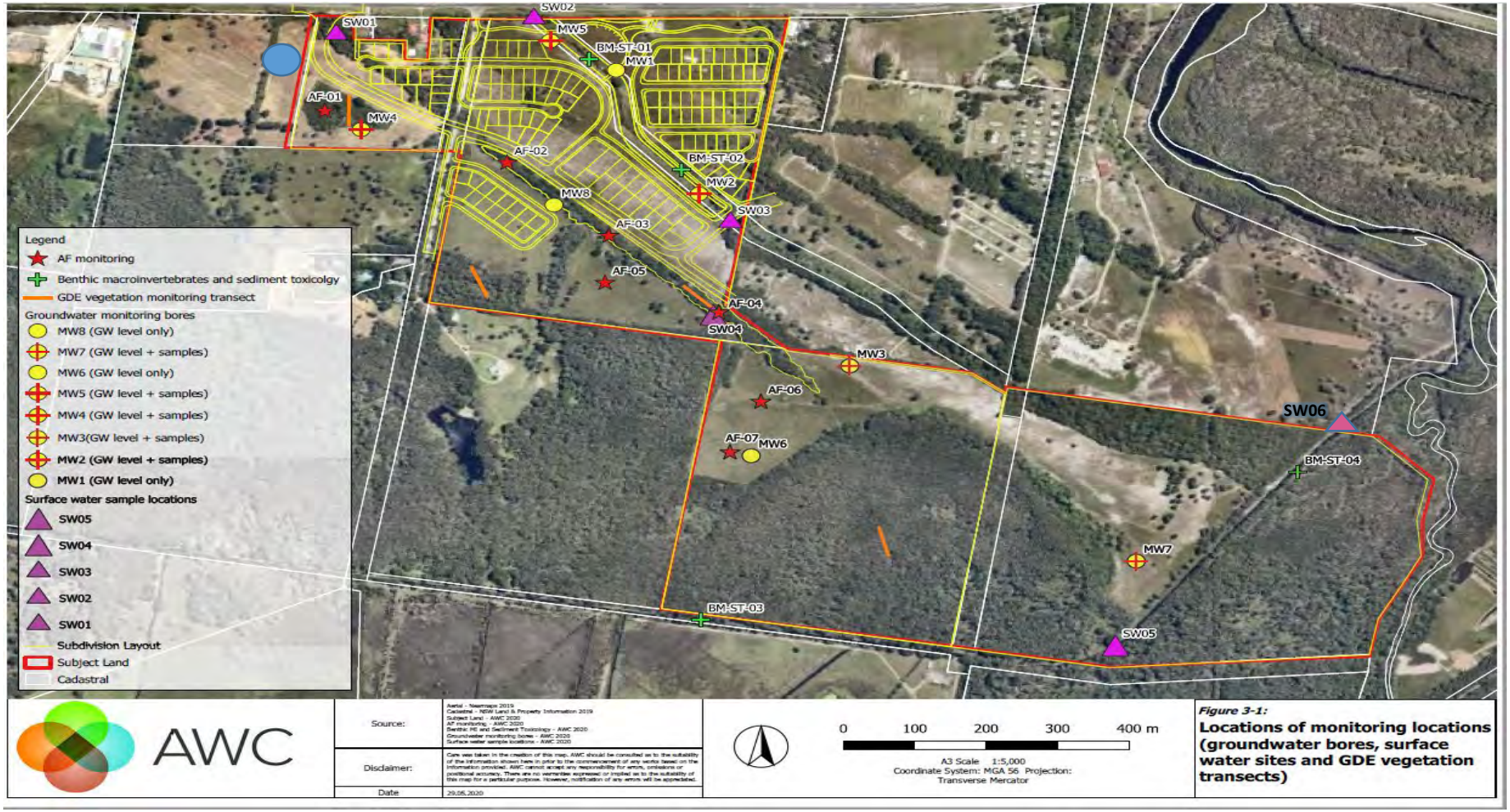


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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ATTACHMENT 2

Groundwater Quality Analytical Results

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	6/11/2024

Description

Image showing southern swale drain – upstream of surface water monitoring location SW04.



Photo No.	Date
2	6/11/2024

Description

Surface water monitoring location SW03.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	6/11/2024

Description

Surface water inlet to surface water monitoring location SW05.



Photo No.	Date
4	6/11/2024

Description

Surface water monitoring location SW05.



ATTACHMENT 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	0.00014
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	0.08333
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	0.00464
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	0.00001
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	0.70000
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	0.00016
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	0.00001
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	0.00015
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	0.00009
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	0.00001
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	0.00023
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	0.00006
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	0.005
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	0.0008
	26/02/2024	<0.005	<0.001	<0.0002	14	<0.001	<0.001	0.93	<0.001	4.6	<0.0001	<0.001	1.7	0.048	0.0018
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	0.0149
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	0.0019
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	0.0023
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	0.0073
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	0.0089
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	0.0071
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	0.0200
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	0.2528
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	0.0052
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	0.0462
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	0.022
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	0.018
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	0.038
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	0.342
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	3.300
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	0.316
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	0.079
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	0.043
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	0.042
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	0.077
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	0.015
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	0.089
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	0.052
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	0.121
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	0.058
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	0.126
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	0.155
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	0.049
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	0.005
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	0.037
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	0.052
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	0.055
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	0.036
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	0.039
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	0.010
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	0.035
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	0.000
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	0.032
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	0.064
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	0.061
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	0.048
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	0.500
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	0.270
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	0.238
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	0.127
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	0.121
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	0.149
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	0.182
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	0.040
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	0.047
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	0.055
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	0.147
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	0.263
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	0.270
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	0.518
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	0.038
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	0.050
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	0.159
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	0.016
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	0.106
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	0.061
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	0.100
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	0.028
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	0.952
	6/11/2024	3	0.00	<0.0002	23	0.002	0.00	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	0.130
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.68
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.47
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.27
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.46
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.67
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.76
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.47
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.11
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.82
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.04
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.71
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.81
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.67
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.45
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.77
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.91
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.15
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.54
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.83
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.00
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.00
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	0.813
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	0.846
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	0.48
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	0.593
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	0.440
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	0.472
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	0.205
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.409
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	0.152
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	0.129
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	0.055
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	0.239
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	0.193
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	0.212
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	0.164
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	0.154
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	0.168
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	0.200
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	0.076
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	0.109
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	0.085
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	0.056
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	0.064
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	0.100
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	0.035
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	0.088
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	0.060
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	0.042
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	0.058
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	0.730
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	0.001
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	0.082
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	0.024
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	0.115
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	0.023
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	0.015
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	0.018
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	0.010
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	0.004
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	0.020
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	0.012
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	0.056
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	0.048
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	0.040
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	0.083
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	0.129
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	0.013
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	0.028
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	0.008
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	0.100
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	0.037
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	0.071
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	-
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1**

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	0.083
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	0.059
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	0.038
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	0.047
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	0.630
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	0.002
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	0.100
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	0.008
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	0.031
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	0.024
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	0.014
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	0.011
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	0.005
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	0.003
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	0.023
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	0.011
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	0.014
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	0.044
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	0.036
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	0.071
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	0.126
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	0.014
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	0.029
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	0.006
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	0.106
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	0.033
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	0.070
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	-
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	-	**0.0033**	**0.0018**	**0.3**	**0.0034**	-	**0.0006**	**0.011**	-	**0.008**	

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

ATTACHMENT 4

Photolog

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/2022	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.07
	20/10/2022	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.08
	14/11/2022	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.05
	14/12/2022	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.33
	18/01/2023	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.41
	20/02/2023	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.14
	28/03/2023	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.48
	18/04/2023	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.35
	18/05/2023	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.16
	25/06/2023	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.44
	24/07/2023	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.00
	21/08/2023	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.15
	18/09/2023	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.08
	18/10/2023	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.20
	20/11/2023	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.26
	19/12/2023	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.13
	20/01/2024	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.08
	26/02/2024	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.93
	26/03/2024	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.43
	18/04/2024	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/2024	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.15
	25/06/2024	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.04
	10/07/2024	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.15
	6/08/2024	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.17
	11/09/2024	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.05
	9/10/2024	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.06
	6/11/2024	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.06
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0**	**-**	**<0.5**
MW3	29/09/2022	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.11
	20/10/2022	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.13
	14/11/2022	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.14
	14/12/2022	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.19
	18/01/2023	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.00
	20/02/2023	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.15
	28/03/2023	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.28
	18/04/2023	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.45
	18/05/2023	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.36
	15/06/2023	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.45
	24/07/2023	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.26
	21/08/2023	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.48
	18/09/2023	Dry – no sample collected																
	18/10/2023	Dry – no sample collected																
	20/11/2023	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.64
	19/12/2023	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.43
	20/01/2024	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.19
	26/02/2024	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.45
	26/03/2024	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.20
	18/04/2024	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.26
	20/05/2024	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.13
	25/06/2024	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.09
	10/07/2024	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.60
	6/08/2024	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.23
	11/09/2024	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.20
	9/10/2024	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.19
	6/11/2024	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.21
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0**	**-**	**<0.5**

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4	29/09/2022	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.05
	20/10/2022	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.05
	14/11/2022	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.17
	14/12/2022	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.34
	18/01/2023	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.25
	20/02/2023	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.39
	28/03/2023	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.21
	18/04/2023	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.81
	18/05/2023	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.71
	15/06/2023	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.41
	24/07/2023	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.71
	21/08/2023	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.20
	18/09/2023	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.53
	18/10/2023	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.37
	20/11/2023	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.26
	19/12/2023	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.34
	20/01/2024	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.12
	26/02/2024	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.41
	26/03/2024	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.28
	18/04/2024	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.39
	20/05/2024	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.37
	25/06/2024	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.15
	10/07/2024	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.46
	6/08/2024	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.21
	11/09/2024	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.12
	9/10/2024	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.25
	6/11/2024	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.10
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0**	**-**	**<0.5**
MW5	29/09/2022	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.06
	20/10/2022	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.07
	14/11/2022	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.03
	14/12/2022	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.33
	18/01/2023	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.15
	20/02/2023	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.78
	28/03/2023	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.29
	18/04/2023	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.36
	18/05/2023	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.67
	15/06/2023	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.00
	24/07/2023	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.27
	21/08/2023	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.84
	18/09/2023	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.31
	18/10/2023	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.24
	20/11/2023	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.00
	19/12/2023	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.75
	20/01/2024	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.23
	26/02/2024	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.00
	26/03/2024	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.57
	18/04/2024	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.35
	20/05/2024	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.72
	25/06/2024	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.42
	11/07/2024	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.71
	6/08/2024	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.06
	11/09/2024	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.78
	9/10/2024	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.22
	6/11/2024	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.45
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0**	**-**	**<0.5**

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	29/09/2022	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.12
	20/10/2022	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.08
	14/11/2022	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.10
	14/12/2022	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.33
	18/01/2023	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.13
	20/02/2023	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.63
	28/03/2023	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.14
	18/04/2023	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.91
	18/05/2023	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.85
	15/06/2023	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.64
	24/07/2023	5.1	140	100	90	0.12	<0.1	10	<0.2	0.7	8.5	14	1.9	1.4	0.9			1.40
	21/08/2023	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.36
	18/09/2023	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.65
	18/10/2023	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.55
	20/11/2023	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.33
	19/12/2023	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.29
	20/01/2024	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.62
	26/02/2024	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.17
	26/03/2024	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.84
	18/04/2024	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	0.82	42.70
	20/05/2024	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.56
	25/06/2024	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0
	11/07/2024	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.54
	6/08/2024	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	3.96
	11/09/2024	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.47
	9/10/2024	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.50
	6/11/2024	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.40
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0**	**-**	**<0.5**

MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 16th December 2024

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

20/01/2025

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	Name:	**Date:**	**Signature:**
Prepared By:	Carson Clark	17/01/2025	
Reviewed By:	Kingsley Baldwin	22/01/2025	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

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To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Attachment 1.

An assessment of the monthly analytical results presented in Attachment 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of pH and Na.	No site related impacts identified at this monitoring location. pH and Na are only marginally outside baseline values whilst high aluminium concentrations exceeding the interim target criteria specified within the site-specific Groundwater Management Plan (AWC 2020) are likely attributed to localised exposed acid sulphate soils associated with the realignment of the northern drain which abuts the monitoring well. TDS, TN and Ca have returned within baseline values from the previous monitoring round.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges.	No site related impacts identified at this location.
MW5	pH, EC, TDS, SO_4 and several cations/anions (Ca, Mg) & Al concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. Overall water quality at MW5 remains similar to the previous monitoring round however the long-term trends for each of the analytes are showing improvement.

MW7	All parameters were within baseline ranges with the exception of pH, SO_4 and Al.	No site related impacts identified at this location. pH remaining marginally outside baseline concentrations and has declined from the previous monitoring round. Variability in analyte concentrations are attributed to seasonal variation.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Attachment 1 and the coordinates (GDA94) of all locations tabulated and presented in Figure 2. Tabulated analytical results are presented in Attachment 3. Select photos of the surface water sampling programme are presented in Attachment 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Attachment 3, identified the following observations:

Site	Observation	Comments
SW01	TSS, and metals (Al, As, Cr, Fe, Pb & Zn) were recorded outside of baseline values. The sulphate - chloride ratio was also higher than the baseline range.	This site is located at an upstream location receiving water from off-site. Elevated analytes at this location are associated with the acid sulfate soil landscape of the Belongil Creek Catchment.
SW02	TDS, EC, SO_4 and K were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site. Elevated analytes at this location are associated with the acid sulfate soil landscape of the Belongil Creek Catchment.

Site	Observation	Comments
SW03	pH, TDS, EC, Na, SO_4 and K were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works. Elevated water quality parameters at this site remain similar to the concentrations observed within the upstream monitoring site (SW02). Elevated pH is associated with the application of ag-lime to assist in acid neutralisation.
SW04	pH, TDS, TSS, EC, TN, SO_4, and several metals (As, Al, Cr, Ca, Cu, Fe, Pb, Mg, Ni and Zn) were outside baseline ranges. The sulphate - chloride ratio was also higher than the interim site criteria.	This site is located downstream of previous Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. Surface water flow at SW04 is consistently observed to be low or stagnant. This stagnation influences the accumulation of metals and cations/anions at this location. As such, impacts or accumulation of metals such as Al, Ca and Fe are likely to be exacerbated. Elevated metals such as As, Cr, Cu and Pb not readily observed historically are likely to have been mobilised with the increase in pH through a range of the biochemical and geochemical factors such as desorption of metals within clays, oxides and organic matter; metal speciation; increased solubility of metal hydroxides and dissolution of secondary mineral phases.
SW05	pH, EC, TDS, Cl, and S were outside baseline ranges.	Increases in pH, EC, TDS, Cl and S concentrations are influenced by significant tidal inflows of saltwater during the sampling period (king tides). This is supported by field observations (drainage line flowing upstream) and EC, chloride and sulphate concentrations in line with marine ANZECC guideline values.
SW06	EC and Al were outside ANZG default guideline values (95% for slightly disturbed river systems).	No site related impacts observed. Concentrations of analytes outside ANZG (2018) criteria (95% for slightly disturbed river systems) were attributed to significant tidal influences of saltwater at the time of sampling (king tides) confirmed by field observations (drainage line flowing upstream) and EC concentrations in line with marine ANZECC guideline values.

3 RAINFALL

During this monitoring period (06/11/2024 – 16/12/2024), 305.4 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), with water quality continuing to improve however remaining poor at this location.

Water quality at SW03 aligns with upstream conditions at SW02 which indicates no or negligible impact, except for a slight increase in sulfate beyond baseline levels which is likely influenced by exposed acid sulfate soils along the margin of the drainage line running through the site.

Elevated EC, TDS, chlorine and sulphate within the receiving waters (SW05 & SW06) located downstream of the site are resultant of king tides assisting with the migration of estuarine/marine upstream into the Belongil Creek system and were not influenced by conditions on site.

Water quality within the groundwater monitoring network continues to indicate localised impact from acid sulfate soils adjacent to MW5. It remains postulated that the instalment of underground services proximal to the well has subjected this location to localised acid sulfate soil impacts.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site.

Continue routine monthly water quality testing to assess whether ag-lime dusting of the drainage network until is required.

ATTACHMENT 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

ENV Solutions
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

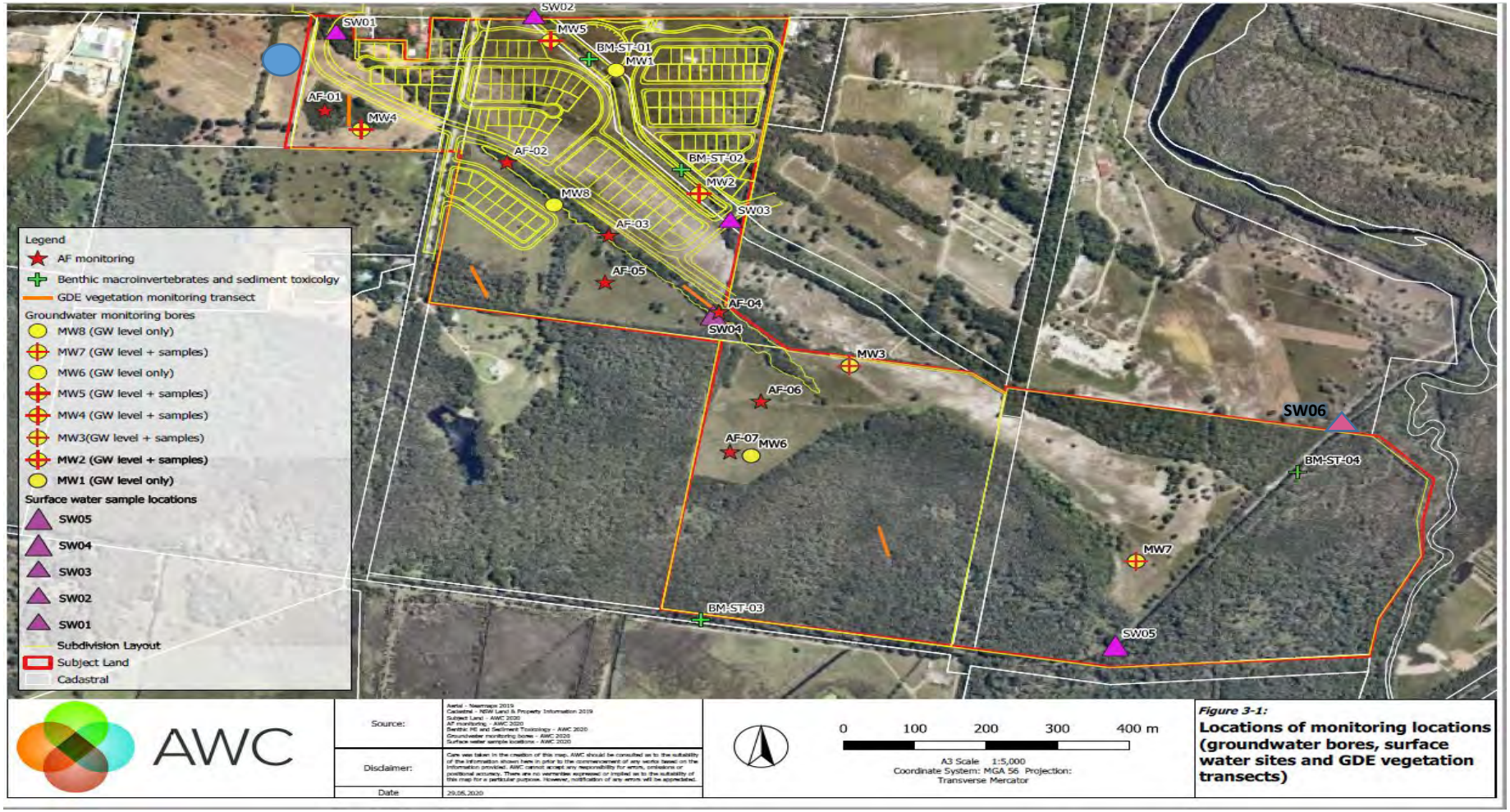


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

ENV Solutions
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ATTACHMENT 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/2022	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.1
	20/10/2022	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.1
	14/11/2022	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.1
	14/12/2022	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.3
	18/01/2023	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.4
	20/02/2023	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.1
	28/03/2023	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.5
	18/04/2023	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.3
	18/05/2023	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.2
	25/06/2023	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.4
	24/07/2023	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.0
	21/08/2023	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.2
	18/09/2023	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.1
	18/10/2023	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.2
	20/11/2023	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.3
	19/12/2023	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.1
	20/01/2024	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.1
	26/02/2024	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.9
	26/03/2024	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.4
	18/04/2024	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/2024	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.2
	25/06/2024	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.0
	10/07/2024	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.1
	6/08/2024	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.2
	11/09/2024	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.0
	9/10/2024	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.1
	6/11/2024	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.1
	16/12/2024	6.0	120	60	8.0	0.05	<0.1	16	<0.2	0.9	30	5.3	0.14	0.8	2.8	3.5	0.14	0.3
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0***	**<1***	**<0.5***
MW3	29/09/2022	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.1
	20/10/2022	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.1
	14/11/2022	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.1
	14/12/2022	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.2
	18/01/2023	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.0
	20/02/2023	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.1
	28/03/2023	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.3
	18/04/2023	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.4
	18/05/2023	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.4
	15/06/2023	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.5
	24/07/2023	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.3
	21/08/2023	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.5
	18/09/2023	Dry – no sample collected																
	18/10/2023	Dry – no sample collected																
	20/11/2023	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.6
	19/12/2023	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.4
	20/01/2024	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.2
	26/02/2024	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.5
	26/03/2024	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.2
	18/04/2024	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.3
	20/05/2024	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.1
	25/06/2024	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.1
	10/07/2024	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.6
	6/08/2024	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.2
	11/09/2024	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.2
	9/10/2024	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.2
	6/11/2024	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.2
	16/12/2024	4.3	35	24	63	0.02	<0.01	4.4	<0.02	0.5	3.8	2.2	<0.5	0.7	<0.5	0.75	<0.1	0.5
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4	29/09/2022	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.0
	20/10/2022	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.1
	14/11/2022	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.2
	14/12/2022	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.3
	18/01/2023	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.3
	20/02/2023	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.4
	28/03/2023	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.2
	18/04/2023	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.8
	18/05/2023	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.7
	15/06/2023	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.4
	24/07/2023	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.7
	21/08/2023	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.2
	18/09/2023	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.5
	18/10/2023	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.4
	20/11/2023	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.3
	19/12/2023	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.3
	20/01/2024	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.1
	26/02/2024	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.4
	26/03/2024	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.3
	18/04/2024	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.4
	20/05/2024	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.4
	25/06/2024	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.2
	10/07/2024	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.5
	6/08/2024	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.2
	11/09/2024	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.1
	9/10/2024	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.2
	6/11/2024	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.1
	16/12/2024	5.7	80	70	<5	0.02	<0.1	18	<0.2	1	11	4.1	8.1	3	<0.5	0.99	7.2	0.2
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0***	**<1***	**<0.5***
MW5	29/09/2022	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.1
	20/10/2022	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.1
	14/11/2022	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.0
	14/12/2022	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.3
	18/01/2023	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.2
	20/02/2023	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.8
	28/03/2023	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.3
	18/04/2023	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.4
	18/05/2023	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.7
	15/06/2023	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.0
	24/07/2023	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.3
	21/08/2023	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.8
	18/09/2023	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.3
	18/10/2023	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.2
	20/11/2023	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.0
	19/12/2023	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.8
	20/01/2024	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.2
	26/02/2024	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.0
	26/03/2024	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.6
	18/04/2024	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.3
	20/05/2024	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.7
	25/06/2024	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.4
	11/07/2024	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.7
	6/08/2024	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.1
	11/09/2024	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.8
	9/10/2024	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.2
	6/11/2024	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.5
	16/12/2024	3.2	1,800	1,100	53	0.02	21	32	<0.2	2.8	25	980	180	21	2.4	35	5.1	30.6
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	29/09/2022	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.1
	20/10/2022	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.1
	14/11/2022	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.1
	14/12/2022	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.3
	18/01/2023	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.1
	20/02/2023	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.6
	28/03/2023	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.1
	18/04/2023	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.9
	18/05/2023	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.8
	15/06/2023	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.6
	24/07/2023	5.1	140	100	90	0.12	<0.1	10	<0.2	1.	8.5	14	1.9	1.4	0.9			1.4
	21/08/2023	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.4
	18/09/2023	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.6
	18/10/2023	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.5
	20/11/2023	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.3
	19/12/2023	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.3
	20/01/2024	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.6
	26/02/2024	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.2
	26/03/2024	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.8
	18/04/2024	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	0.82	42.7
	20/05/2024	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.6
	25/06/2024	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0.0
	11/07/2024	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.5
	6/08/2024	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	4.0
	11/09/2024	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.5
	9/10/2024	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.5
	6/11/2024	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.4
	16/12/2024	4.3	58	68	29	0.04	<0.1	12	<0.2	1.3	8.5	42	1.6	1.3	<0.5	1.9	0.84	3.5
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0***	**<1***	**<0.5***

ATTACHMENT 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
	16/12/2024	6.9	90	190	3.3	140	0.36	<0.01	8.2	<0.02	0.02	11	5.4	170	<10	0.7
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	0.00
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	0.08
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	0.00
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	0.00
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	0.70
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	0.00
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	0.00
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	0.00
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	0.00
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	0.00
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	0.00
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	0.00
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	0.01
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	0.00
	26/02/2024	<0.005	<0.001	<0.0002	14.00	<0.001	<0.001	0.93	<0.001	4.60	<0.0001	<0.001	1.70	0.05	0.00
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	0.01
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	0.00
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	0.00
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	0.01
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	0.01
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	0.01
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	0.02
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	0.25
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	0.01
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	0.05
	16/12/2024	2.4	0.004	<0.0002	22	0.006	0.019	38	0.006	4.5	<0.0001	0.004	2.8	0.092	0.11
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
	16/12/2024	6.4	200	110	8.8	310	1.1	<0.01	55	<0.02	0.4	11	19	6.6	<10	0.35
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	0.02
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	0.02
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	0.04
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	0.34
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	3.30
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	0.32
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	0.08
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	0.04
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	0.04
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	0.08
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	0.02
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	0.09
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	0.05
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	0.12
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	0.06
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	0.13
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	0.15
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	0.05
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	0.00
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	0.04
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	0.05
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	0.06
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	0.04
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	0.04
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	0.01
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	0.03
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	0.00
	16/12/2024	0.05	<0.001	<0.0002	14	<0.001	0.001	0.24	<0.001	3.1	<0.0001	<0.001	9.4	0.008	0.00
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
	16/12/2024	7.2	250	5.3	19.0	370	<0.01	<0.01	70	<0.02	0.7	61	31	50	<10	0.4
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	0.03
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	0.06
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	0.06
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	0.05
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	0.50
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	0.27
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	0.24
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	0.13
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	0.12
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	0.15
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	0.18
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	0.04
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	0.05
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	0.05
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	0.15
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	0.26
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	0.27
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	0.52
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	0.04
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	0.05
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	0.16
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	0.02
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	0.11
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	0.06
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	0.10
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	0.03
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	0.95
	6/11/2024	3	0.00	<0.0002	23	0.002	0.00	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	0.13
	16/12/2024	0.29	0.001	<0.0002	19	0.001	<0.001	1.6	<0.001	4.0	<0.0001	0.001	12	0.009	0.02
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.7
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.5
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.3
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.5
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.7
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.8
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.1
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.8
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.0
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.7
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.8
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.7
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.5
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.8
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.9
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.2
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.5
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.8
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.0
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.0
	16/12/2024	5.7	210	420	0.2	360	0.10	0.25	13	<0.02	13	12	110	7	25	8.5
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	0.81
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	0.85
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	0.48
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	0.59
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	0.44
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	0.47
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	0.21
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.41
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	0.15
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	0.13
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	0.05
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	0.24
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	0.19
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	0.21
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	0.16
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	0.15
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	0.17
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	0.20
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	0.08
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	0.11
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	0.09
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	0.06
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	0.06
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	0.10
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	0.03
	16/12/2024	4.4	0.007	<0.0002	29	0.009	0.006	170	0.003	4.5	<0.0001	0.009	1.3	0.035	0.15
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
	16/12/2024	7.4	31,000	26	9.3	44000	0.02	0.14	1400	<0.02	0.4	<0.5	2000	<5	<10	1.43
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	0.09
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	0.06
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	0.04
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	0.06
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	0.73
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	0.00
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	0.08
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	0.02
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	0.12
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	0.02
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	0.02
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	0.02
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	0.01
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	0.00
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	0.02
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	0.01
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	0.06
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	0.05
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	0.04
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	0.08
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	0.13
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	0.01
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	0.03
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	0.01
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	0.10
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	0.04
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	0.07
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	0.04
	16/12/2024	<0.05	<0.001	<0.0002	<0.5	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	0.00
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
	16/12/2024	7.7	33,000	13	9.5	47000	0.01	0.18	16,000	<0.02	<0.2	<0.5	2,100	<5	<10	0.13
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	0.08
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	0.06
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	0.04
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	0.05
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	0.63
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	0.00
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	0.10
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	0.01
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	0.03
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	0.02
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	0.01
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	0.01
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	0.01
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	0.00
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	0.02
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	0.01
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	0.01
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	0.04
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	0.04
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	0.07
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	0.13
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	0.01
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	0.03
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	0.01
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	0.11
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	0.03
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	0.07
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	0.03
	16/12/2024	4.4	0.007	<0.0002	29	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	0.15
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	**-**	**0.0033**	**0.0018**	**0.3**	**0.0034**	**-**	**0.0006**	**0.011**	**-**	**0.008**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

ATTACHMENT 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	16/12/2024

Description

Image depicts water at sample location SW06.



Photo No.	Date
2	16/12/2024

Description

Image depicts surface water monitoring location SW04.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	16/12/2024

Description

Image depicts surface water monitoring location SW03, and groundwater well MW2.



Photo No.	Date
4	16/12/2024

Description

Image depicts surface water monitoring location SW01.



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 14th January 2025

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

31/01/2024

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_January_2025

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	29/01/2025	
Reviewed By:	Kingsley Baldwin	31/01/2025	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored, or transmitted in any form without the prior consent of ENV.

ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Attachment 1.

An assessment of the monthly analytical results presented in Attachment 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of pH, Na and Al.	No site related impacts identified at this monitoring location. All elevated parameters are marginally outside baseline values with the exception of aluminium where no baseline data was recorded.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges with the exception of Al.	No site related impacts identified at this location. Aluminium concentrations remain marginally outside criteria specified in the National Acid Sulfate Soils Guidance.
MW5	pH, EC, TDS, SO_4 and several cations/anions (Na, Ca, Mg) & Al concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. Overall, water quality at MW5 has gradually improved over the past two monitoring rounds.
MW7	All parameters were within baseline ranges with the exception of Al.	No site related impacts identified at this location. pH has returned within baseline values from the previous monitoring round.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Attachment 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Attachment 3. Select photos of the surface water sampling programme are presented in Attachment 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Attachment 3, identified the following observations:

Site	Observation	Comments
SW01	All parameters were within historic baseline ranges.	No site related impacts identified.
SW02	EC and K were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site. No site related impacts identified.
SW03	pH, TDS, EC, SO_4 and several cations/anions (Na & K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works. Elevated water quality parameters at this site remain similar to the concentrations observed within the upstream monitoring site (SW02) and therefore indicate that there is no observable impact derived from the site. pH levels continue to reflect the neutralising effects of ag-lime application as values are now in higher range above baseline values.

Site	Observation	Comments
SW04	pH, TDS, EC, SO_4, several cations/anions (Ca, Fe, Mg, Ni and Zn) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. Metals Cr, Cu and Pb have returned within baseline ranges from the previous monitoring round. pH continues to show trends of neutralisation and it now above baseline range.
SW05	pH, EC, TDS, SO_4, Cl, and several cations/anions (Na, Ca, Mg and K) were outside baseline ranges.	Physicochemical parameters overall have improved since the previous monitoring round. It remains postulated that elevated TDS and EC indicate the influence of tidal inflows of saltwater during king tides. Concentrations remain concentrations in line with marine ANZECC guideline values. No site related impacts identified.
SW06	EC, TN and Al were recorded outside ANZG default guideline values (95% for slightly disturbed river systems).	It is noted all values fall within the upstream baseline ranges recorded at SW05. As such, no definitive degradation in water quality is observed between the two locations. Concentrations remain in line with estuarine ANZECC guideline values. No site related impacts observed.

3 RAINFALL

During this monitoring period (16/12/2024 – 14/01/2025), 84.2 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), despite water quality parameters improving, water quality remains poor at this location. The application of ag-lime has been affective in neutralising pH levels and subsequently, metal attenuation at this location appears to be gradually dissipating. The limited or absent flow of surface water at SW04 likely contributes to poor water quality.

Water quality reported at SW03 is in-line with upstream (SW02) water quality, with no discernible site related impacts observed.

Water quality within the groundwater monitoring network continues to indicate localised impact from acid sulfate soils adjacent to MW5. It remains postulated that the instalment of underground services proximal to the well has subjected this location to acid sulfate soil impacts.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site.

- Continue routine monthly water quality testing to assess whether ongoing ag-lime dusting of the drainage network is required.

ATTACHMENT 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

ENV Solutions
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

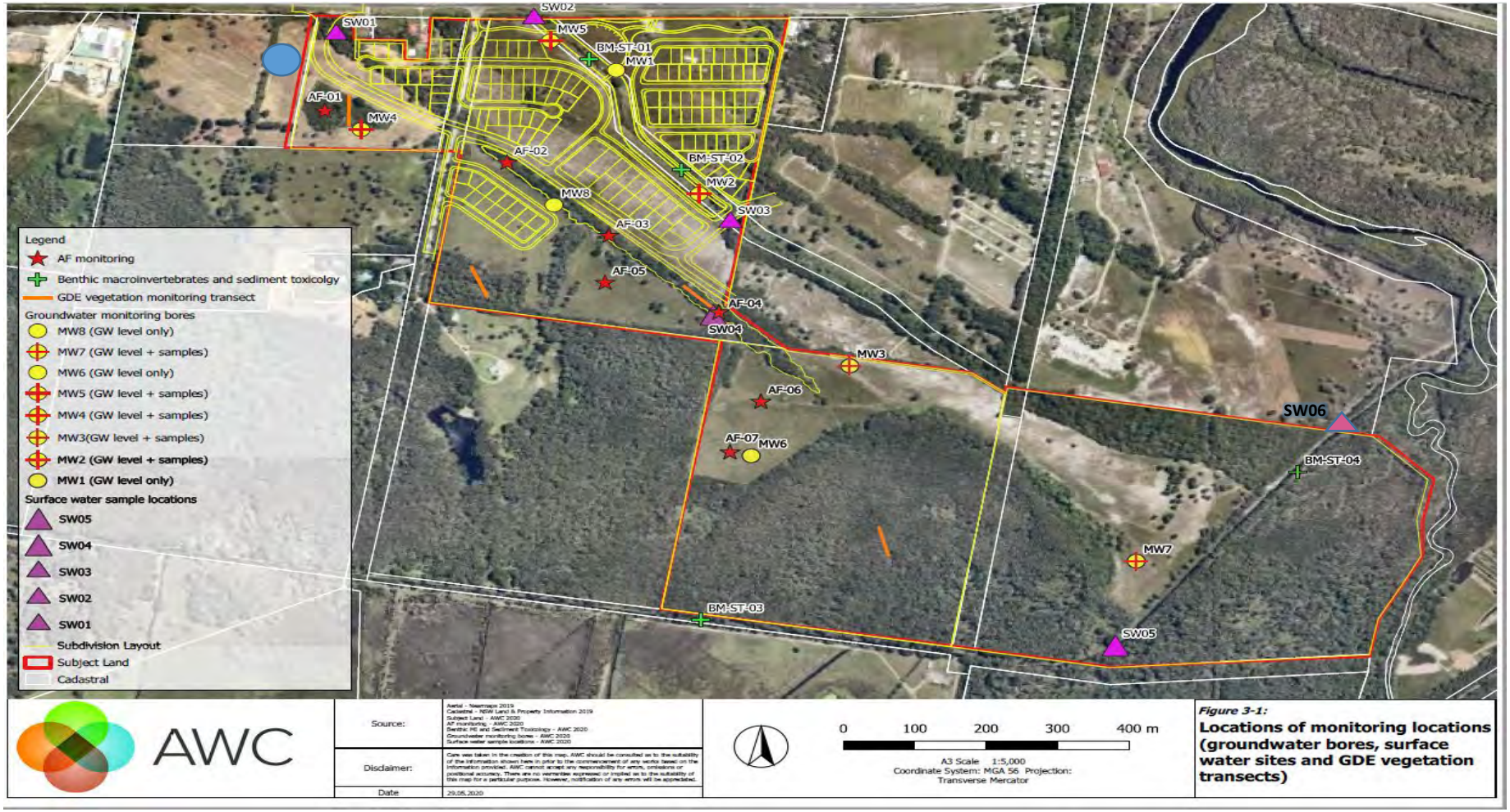


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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ATTACHMENT 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

ENV
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/2022	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.1
	20/10/2022	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.1
	14/11/2022	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.1
	14/12/2022	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.3
	18/01/2023	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.4
	20/02/2023	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.1
	28/03/2023	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.5
	18/04/2023	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.3
	18/05/2023	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.2
	25/06/2023	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.4
	24/07/2023	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.0
	21/08/2023	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.2
	18/09/2023	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.1
	18/10/2023	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.2
	20/11/2023	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.3
	19/12/2023	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.1
	20/01/2024	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.1
	26/02/2024	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.9
	26/03/2024	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.4
	18/04/2024	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/2024	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.2
	25/06/2024	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.0
	10/07/2024	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.1
	6/08/2024	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.2
	11/09/2024	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.0
	9/10/2024	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.1
	6/11/2024	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.1
	16/12/2024	6.0	120	60	8.0	0.05	<0.1	16	<0.2	0.9	30	5.3	0.14	0.8	2.8	3.5	0.14	0.3
	14/01/2025	6.4	150	94	610.0	0.03	<0.05	15	<0.1	<0.25	31	<2	<0.5	0.6	2.4	2.7	1	0.1
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0***	**<1***	**<0.5***
MW3	29/09/2022	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.1
	20/10/2022	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.1
	14/11/2022	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.1
	14/12/2022	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.2
	18/01/2023	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.0
	20/02/2023	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.1
	28/03/2023	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.3
	18/04/2023	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.4
	18/05/2023	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.4
	15/06/2023	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.5
	24/07/2023	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.3
	21/08/2023	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.5
	18/09/2023	Dry – no sample collected																
	18/10/2023	Dry – no sample collected																
	20/11/2023	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.6
	19/12/2023	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.4
	20/01/2024	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.2
	26/02/2024	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.5
	26/03/2024	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.2
	18/04/2024	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.3
	20/05/2024	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.1
	25/06/2024	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.1
	10/07/2024	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.6
	6/08/2024	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.2
	11/09/2024	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.2
	9/10/2024	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.2
	6/11/2024	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.2
	16/12/2024	4.3	35	24	63	0.02	<0.01	4.4	<0.02	0.5	3.8	2.2	<0.5	0.7	<0.5	0.75	<0.1	0.5
	14/01/2025	4.5	40	20	38	0.03	0.01	3.3	<0.02	0.5	2.8	<2	<0.5	<0.5	<0.5	0.75	0.3	0.3
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4	29/09/2022	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.0
	20/10/2022	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.1
	14/11/2022	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.2
	14/12/2022	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.3
	18/01/2023	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.3
	20/02/2023	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.4
	28/03/2023	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.2
	18/04/2023	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.8
	18/05/2023	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.7
	15/06/2023	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.4
	24/07/2023	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.7
	21/08/2023	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.2
	18/09/2023	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.5
	18/10/2023	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.4
	20/11/2023	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.3
	19/12/2023	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.3
	20/01/2024	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.1
	26/02/2024	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.4
	26/03/2024	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.3
	18/04/2024	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.4
	20/05/2024	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.4
	25/06/2024	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.2
	10/07/2024	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.5
	6/08/2024	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.2
	11/09/2024	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.1
	9/10/2024	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.2
	6/11/2024	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.1
	16/12/2024	5.7	80	70	<5	0.02	<0.1	18	<0.2	1	11	4.1	8.1	3	<0.5	0.99	7.2	0.2
	14/01/2025	4.1	180	120	86	0.02	1.3	26	<0.02	1.2	14	2.4	4.4	3.8	<0.5	1.6	0.3	0.1
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0***	**<1***	**<0.5***
MW5	29/09/2022	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.1
	20/10/2022	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.1
	14/11/2022	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.0
	14/12/2022	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.3
	18/01/2023	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.2
	20/02/2023	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.8
	28/03/2023	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.3
	18/04/2023	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.4
	18/05/2023	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.7
	15/06/2023	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.0
	24/07/2023	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.3
	21/08/2023	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.8
	18/09/2023	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.3
	18/10/2023	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.2
	20/11/2023	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.0
	19/12/2023	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.8
	20/01/2024	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.2
	26/02/2024	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.0
	26/03/2024	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.6
	18/04/2024	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.3
	20/05/2024	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.7
	25/06/2024	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.4
	11/07/2024	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.7
	6/08/2024	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.1
	11/09/2024	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.8
	9/10/2024	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.2
	6/11/2024	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.5
	16/12/2024	3.2	1,800	1,100	53	0.02	21	32	<0.2	2.8	25	980	180	21	2.4	35	5.1	30.6
	14/01/2025	3.7	1,600	1,400	190	<0.01	1.3	19	<0.02	2.1	16	320	210	16	1.8	25	8.4	16.8
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	29/09/2022	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.1
	20/10/2022	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.1
	14/11/2022	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.1
	14/12/2022	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.3
	18/01/2023	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.1
	20/02/2023	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.6
	28/03/2023	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.1
	18/04/2023	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.9
	18/05/2023	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.8
	15/06/2023	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.6
	24/07/2023	5.1	140	100	90	0.12	<0.1	10	<0.2	1.	8.5	14	1.9	1.4	0.9			1.4
	21/08/2023	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.4
	18/09/2023	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.6
	18/10/2023	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.5
	20/11/2023	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.3
	19/12/2023	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.3
	20/01/2024	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.6
	26/02/2024	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.2
	26/03/2024	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.8
	18/04/2024	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	0.82	42.7
	20/05/2024	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.6
	25/06/2024	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0.0
	11/07/2024	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.5
	6/08/2024	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	4.0
	11/09/2024	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.5
	9/10/2024	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.5
	6/11/2024	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.4
	16/12/2024	4.3	58	68	29	0.04	<0.1	12	<0.2	1.3	8.5	42	1.6	1.3	<0.5	1.9	0.84	3.5
	14/01/2025	4.7	63	36	120	0.04	0.02	8.6	0.03	1.3	6.8	7.0	1.7	1.2	0.5	2.4	1.4	0.8
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0***	**<1***	**<0.5***

ATTACHMENT 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
	16/12/2024	6.9	90	190	3.3	140	0.36	<0.01	8.2	<0.02	0.02	11	5.4	170	<10	0.7
	14/01/2025	6.7	48	7.2	3.5	89	0.14	<0.1	4.8	<0.02	0.6	5.4	<5	<0.005	<10	0.0
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	0.00
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	0.08
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	0.00
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	0.00
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	0.70
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	0.00
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	0.00
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	0.00
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	0.00
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	0.00
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	0.00
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	0.00
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	0.01
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	0.00
	26/02/2024	<0.005	<0.001	<0.0002	14.00	<0.001	<0.001	0.93	<0.001	4.60	<0.0001	<0.001	1.70	0.05	0.00
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	0.01
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	0.00
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	0.00
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	0.01
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	0.01
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	0.01
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	0.02
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	0.25
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	0.01
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	0.05
	16/12/2024	2.4	0.004	<0.0002	22	0.006	0.019	38	0.006	4.5	<0.0001	0.004	2.8	0.092	0.11
	14/01/2025	0.15	<0.001	<0.0002	8.8	0.001	0.003	0.34	<0.001	1.8	<0.0001	0.001	0.6	0.018	0.02
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
	16/12/2024	6.4	200	110	8.8	310	1.1	<0.01	55	<0.02	0.4	11	19	6.6	<10	0.35
	14/01/2025	6.9	170	<5	4.6	340	0.08	<0.01	51	<0.02	0.9	44	7.7	<0.005	<10	0.15
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	0.02
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	0.02
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	0.04
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	0.34
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	3.30
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	0.32
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	0.08
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	0.04
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	0.04
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	0.08
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	0.02
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	0.09
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	0.05
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	0.12
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	0.06
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	0.13
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	0.15
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	0.05
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	0.00
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	0.04
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	0.05
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	0.06
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	0.04
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	0.04
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	0.01
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	0.03
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	0.00
	16/12/2024	0.05	<0.001	<0.0002	14	<0.001	0.001	0.24	<0.001	3.1	<0.0001	<0.001	9.4	0.008	0.00
	14/01/2025	0.06	<0.001	<0.0002	14	0.001	0.002	0.28	<0.001	2.7	<0.0001	0.001	9.4	0.015	0.00
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
	16/12/2024	7.2	250	5.3	19.0	370	<0.01	<0.01	70	<0.02	0.7	61	31	50	<10	0.4
	14/01/2025	6.9	220	<5	7.7	420	0.04	<0.01	66	<0.02	1.3	57	11	<5	<10	0.2
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	0.03
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	0.06
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	0.06
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	0.05
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	0.50
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	0.27
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	0.24
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	0.13
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	0.12
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	0.15
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	0.18
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	0.04
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	0.05
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	0.05
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	0.15
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	0.26
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	0.27
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	0.52
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	0.04
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	0.05
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	0.16
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	0.02
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	0.11
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	0.06
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	0.10
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	0.03
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	0.95
	6/11/2024	3	0.00	<0.0002	23	0.002	0.00	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	0.13
	16/12/2024	0.29	0.001	<0.0002	19	0.001	<0.001	1.6	<0.001	4.0	<0.0001	0.001	12	0.009	0.02
	14/01/2025	0.17	0.001	<0.0002	17	<0.001	0.001	0.74	<0.001	3.3	<0.0001	0.001	12	0.016	0.01
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.7
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.5
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.3
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.5
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.7
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.8
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.1
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.8
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.0
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.7
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.8
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.7
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.5
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.8
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.9
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.2
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.5
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.8
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.0
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.0
	16/12/2024	5.7	210	420	0.2	360	0.10	0.25	13	<0.02	13	12	110	7	25	8.5
	14/01/2025	4.1	310	120	4.9	460	0.13	0.03	6.3	<0.02	1.3	11	64	<5	<10	10.2
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	0.81
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	0.85
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	0.48
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	0.59
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	0.44
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	0.47
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	0.21
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.41
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	0.15
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	0.13
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	0.05
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	0.24
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	0.19
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	0.21
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	0.16
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	0.15
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	0.17
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	0.20
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	0.08
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	0.11
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	0.09
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	0.06
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	0.06
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	0.10
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	0.03
	16/12/2024	4.4	0.007	<0.0002	29	0.009	0.006	170	0.003	4.5	<0.0001	0.009	1.3	0.035	0.15
	14/01/2025	1.2	<0.001	<0.0002	53	<0.001	0.001	5.8	<0.001	5.8	<0.0001	0.014	0.8	0.039	0.02
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
	16/12/2024	7.4	31000	26	9.3	44000	0.02	0.14	1400	<0.02	0.4	<0.5	2000	<5	<10	1.43
	14/01/2025	7.1	19000	9.4	6.2	30000	0.04	0.04	12000	<0.02	0.3	5500	500	<5	<10	0.04
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	0.09
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	0.06
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	0.04
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	0.06
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	0.73
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	0.00
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	0.08
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	0.02
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	0.12
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	0.02
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	0.02
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	0.02
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	0.01
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	0.00
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	0.02
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	0.01
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	0.06
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	0.05
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	0.04
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	0.08
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	0.13
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	0.01
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	0.03
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	0.01
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	0.10
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	0.04
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	0.07
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	0.04
	16/12/2024	<0.05	<0.001	<0.0002	<0.5	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	0.00
	14/01/2025	0.24	0.002	<0.0002	230	0.002	<0.001	0.64	<0.001	660	<0.0001	<0.001	210	0.006	0.00
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
	16/12/2024	7.7	33000	13	9.5	47000	0.01	0.18	16000	<0.02	<0.2	<0.5	2,100	<5	<10	0.13
	14/01/2025	7.2	25000	11	6.3	38000	0.03	0.06	15000	<0.02	0.7	7200	600	<5	<10	0.04
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	0.08
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	0.06
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	0.04
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	0.05
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	0.63
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	0.00
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	0.10
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	0.01
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	0.03
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	0.02
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	0.01
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	0.01
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	0.01
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	0.00
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	0.02
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	0.01
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	0.01
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	0.04
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	0.04
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	0.07
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	0.13
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	0.01
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	0.03
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	0.01
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	0.11
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	0.03
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	0.07
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	0.03
	16/12/2024	4.4	0.007	<0.0002	29	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	0.15
	14/01/2025	0.15	0.002	<0.0002	300	0.002	<0.001	0.3	<0.001	860	<0.0001	<0.001	270	<0.005	0.00
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	**-**	**0.0033**	**0.0018**	**0.3**	**0.0034**	**-**	**0.0006**	**0.011**	**-**	**0.008**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

ATTACHMENT 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	14/01/2025

Description

Image surface water monitoring location SW02.



Photo No.	Date
2	14/01/2025

Description

Surface water monitoring location SW03.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	14/01/2025

Description

Surface water monitoring location SW04.



Photo No.	Date
4	14/01/2025

Description

Surface water monitoring location SW05.



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 11th February 2025

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

26/02/2025

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_February_2025

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	26/02/2025	
Reviewed By:	Kingsley Baldwin	26/02/2025	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored, or transmitted in any form without the prior consent of ENV.

ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Attachment 1.

An assessment of the monthly analytical results presented in Attachment 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of EC, TDS and Al.	No site related impacts identified at this monitoring location. All elevated parameters are marginally outside baseline values with the exception of aluminium where no baseline data was recorded.
MW3	All parameters were within baseline ranges with the exception of Al.	No site related impacts identified at this monitoring location. Aluminium concentrations remain marginally outside criteria specified in the National Acid Sulfate Soils Guidance.
MW4	All parameters were within baseline ranges with the exception of Al.	No site related impacts identified at this location. Aluminium concentrations remain marginally outside criteria specified in the National Acid Sulfate Soils Guidance.
MW5	pH, EC, TDS, SO_4,TN, Al and cations/anions (Cl, Na, Ca, Mg) concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. Water quality at MW5 has deteriorated since the previous monitoring round although trends of each element continue to trend lower indicating general improvements in water quality.
MW7	All parameters were within baseline ranges with the exception of Al.	No site related impacts identified at this location.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Attachment 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Attachment 3. Select photos of the surface water sampling programme are presented in Attachment 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Attachment 3, identified the following observations:

Site	Observation	Comments
SW01	pH, TDS, EC, SO_4 and Fe were recorded outside of historic baseline ranges.	This site is located at an upstream location receiving water from off-site. No site related impacts identified.
SW02	pH, Na, Chlorophyll a, Ca and K were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site. No site related impacts identified.

Site	Observation	Comments
SW03	pH, TDS, EC, SO_4 and several cations/anions (Ca, Na & K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works. Elevated water quality parameters at this site remain similar to the concentrations observed within the upstream monitoring site (SW02) and therefore indicate that there is no observable impact derived from the site. pH levels continue to reflect the neutralising effects of ag-lime application as values are now in higher range above baseline values.
SW04	pH, TDS, EC, SO_4, several cations/anions (Na, Ca, Mg, and Zn) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. pH has been buffered by the application of aglime and is now above baseline range. Elevated concentrations continually observed at this site theoretically should reduce as pH increases. Water flow at SW04 has been noted to be stagnant and accumulating in the drain adjacent to Melaleuca Drive.
SW05	pH, EC, TDS, SO_4, and several cations/anions (Cl, Na, Ca, Mg and Zn) were outside baseline ranges.	It remains postulated that elevated TDS and EC indicate the influence of tidal inflows of saltwater during king tides. Concentrations remain concentrations in line with marine ANZECC guideline values. SO_4 and Cl have improved since the previous monitoring round. No site related impacts identified.
SW06	EC, TN, Al, Fe and Zn were recorded outside ANZG default guideline values (95% for slightly disturbed river systems).	Water quality at SW06 remains similar to that observed upstream at SW05. As such, no definitive degradation in water quality is observed between the two locations. No site related impacts observed.

3 RAINFALL

During this monitoring period (14/01/2025 – 11/02/2025), 57.6 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), despite water quality parameters improving, water quality remains poor at this location.

The application of ag-lime has been affective in neutralising pH levels across the site. Surface water has been noted to be accumulating upstream of SW04 within the southern swale drain, adjacent to Melaleuca Drive. It is likely that this stagnation is contributing to the attenuation of metals and the overall poor water quality at SW04, which has deteriorated since the previous monitoring round.

Water quality reported at SW03 remains in-line with upstream (SW02) water quality, with no discernible site related impacts observed.

The groundwater monitoring network continues to present indicators of localised impact from acid sulfate soils adjacent to MW5.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site.

- Investigate potential drainage issues within the southern swale drain, upstream of SW04; and
- Continue routine monthly water quality testing to assess whether ongoing ag-lime dusting of the drainage network is required.

ATTACHMENT 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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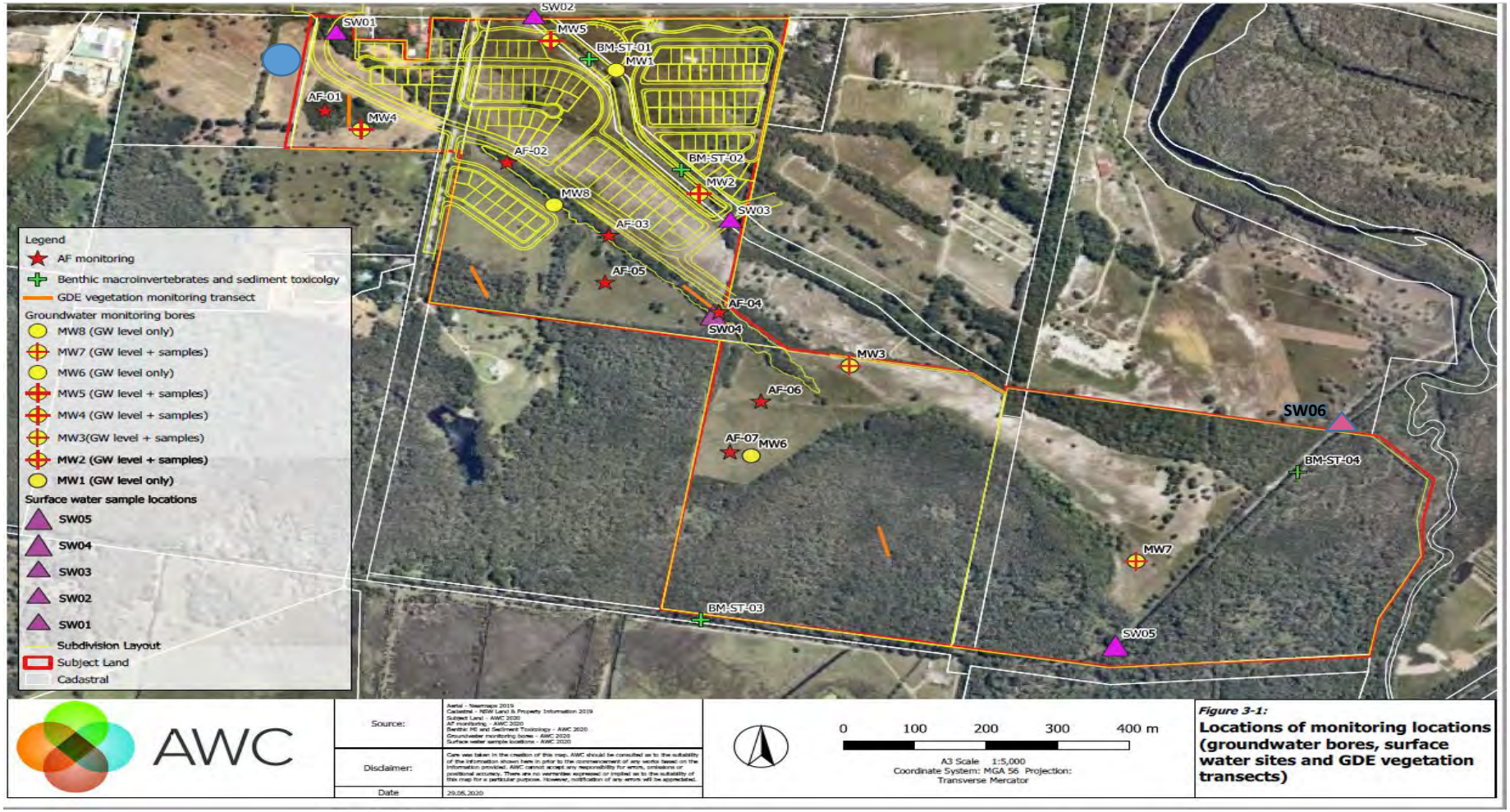


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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ATTACHMENT 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/2022	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.1
	20/10/2022	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.1
	14/11/2022	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.1
	14/12/2022	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.3
	18/01/2023	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.4
	20/02/2023	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.1
	28/03/2023	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.5
	18/04/2023	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.3
	18/05/2023	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.2
	25/06/2023	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.4
	24/07/2023	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.0
	21/08/2023	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.2
	18/09/2023	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.1
	18/10/2023	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.2
	20/11/2023	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.3
	19/12/2023	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.1
	20/01/2024	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.1
	26/02/2024	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.9
	26/03/2024	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.4
	18/04/2024	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/2024	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.2
	25/06/2024	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.0
	10/07/2024	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.1
	6/08/2024	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.2
	11/09/2024	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.0
	9/10/2024	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.1
	6/11/2024	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.1
	16/12/2024	6.0	120	60	8.0	0.05	<0.1	16	<0.2	0.9	30	5.3	0.14	0.8	2.8	3.5	0.14	0.3
	14/01/2025	6.4	150	94	610.0	0.03	<0.05	15	<0.1	<0.25	31	<2	<0.5	0.6	2.4	2.7	1	0.1
	11/02/2025	5.7	170	150	<5	0.04	<0.1	13	<0.02	<0.5	29	2.8	<0.5	0.6	2.4	2.8	<1	0.2
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0***	**<1***	**<0.5***
MW3	29/09/2022	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.1
	20/10/2022	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.1
	14/11/2022	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.1
	14/12/2022	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.2
	18/01/2023	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.0
	20/02/2023	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.1
	28/03/2023	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.3
	18/04/2023	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.4
	18/05/2023	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.4
	15/06/2023	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.5
	24/07/2023	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.3
	21/08/2023	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.5
	18/09/2023	Dry – no sample collected																
	18/10/2023	Dry – no sample collected																
	20/11/2023	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.6
	19/12/2023	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.4
	20/01/2024	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.2
	26/02/2024	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.5
	26/03/2024	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.2
	18/04/2024	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.3
	20/05/2024	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.1
	25/06/2024	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.1
	10/07/2024	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.6
	6/08/2024	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.2
	11/09/2024	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.2
	9/10/2024	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.2
	6/11/2024	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.2
	16/12/2024	4.3	35	24	63	0.02	<0.01	4.4	<0.02	0.5	3.8	2.2	<0.5	0.7	<0.5	0.75	<1	0.5
	14/01/2025	4.5	40	20	38	0.03	0.01	3.3	<0.02	0.5	2.8	<2	<0.5	<0.5	<0.5	0.75	<1	0.3
	11/02/2025	4.2	64	36	8.2	<0.01	<0.01	2.9	<0.02	<0.2	3.1	4.4	<0.5	<0.5	<0.5	1.1	<1	1.5
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

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Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4	29/09/2022	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.0
	20/10/2022	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.1
	14/11/2022	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.2
	14/12/2022	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.3
	18/01/2023	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.3
	20/02/2023	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.4
	28/03/2023	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.2
	18/04/2023	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.8
	18/05/2023	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.7
	15/06/2023	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.4
	24/07/2023	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.7
	21/08/2023	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.2
	18/09/2023	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.5
	18/10/2023	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.4
	20/11/2023	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.3
	19/12/2023	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.3
	20/01/2024	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.1
	26/02/2024	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.4
	26/03/2024	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.3
	18/04/2024	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.4
	20/05/2024	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.4
	25/06/2024	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.2
	10/07/2024	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.5
	6/08/2024	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.2
	11/09/2024	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.1
	9/10/2024	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.2
	6/11/2024	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.1
	16/12/2024	5.7	80	70	<5	0.02	<0.1	18	<0.2	1	11	4.1	8.1	3	<0.5	0.99	7.2	0.2
	14/01/2025	4.1	180	120	86	0.02	1.3	26	<0.02	1.2	14	2.4	4.4	3.8	<0.5	1.6	<1	0.1
	11/02/2025	4.1	170	150	<5	0.01	<0.1	25	<0.02	<0.5	16	3.1	2.5	4.8	<0.5	1.8	<1	0.1
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0***	**<1***	**<0.5***
MW5	29/09/2022	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.1
	20/10/2022	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.1
	14/11/2022	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.0
	14/12/2022	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.3
	18/01/2023	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.2
	20/02/2023	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.8
	28/03/2023	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.3
	18/04/2023	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.4
	18/05/2023	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.7
	15/06/2023	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.0
	24/07/2023	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.3
	21/08/2023	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.8
	18/09/2023	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.3
	18/10/2023	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.2
	20/11/2023	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.0
	19/12/2023	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.8
	20/01/2024	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.2
	26/02/2024	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.0
	26/03/2024	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.6
	18/04/2024	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.3
	20/05/2024	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.7
	25/06/2024	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.4
	11/07/2024	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.7
	6/08/2024	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.1
	11/09/2024	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.8
	9/10/2024	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.2
	6/11/2024	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.5
	16/12/2024	3.2	1,800	1,100	53	0.02	21	32	<0.2	2.8	25	980	180	21	2.4	35	5.1	30.6
	14/01/2025	3.7	1,600	1,400	190	<0.01	1.3	19	<0.02	2.1	16	320	210	16	1.8	25	8.4	16.8
	11/02/2025	3.5	2,000	1,700	69	0.01	2.6	160	<0.02	14	110	860	110	50	2.8	56	1.96	5.4
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	29/09/2022	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.1
	20/10/2022	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.1
	14/11/2022	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.1
	14/12/2022	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.3
	18/01/2023	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.1
	20/02/2023	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.6
	28/03/2023	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.1
	18/04/2023	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.9
	18/05/2023	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.8
	15/06/2023	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.6
	24/07/2023	5.1	140	100	90	0.12	<0.1	10	<0.2	1.	8.5	14	1.9	1.4	0.9			1.4
	21/08/2023	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.4
	18/09/2023	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.6
	18/10/2023	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.5
	20/11/2023	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.3
	19/12/2023	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.3
	20/01/2024	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.6
	26/02/2024	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.2
	26/03/2024	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.8
	18/04/2024	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	<1	42.7
	20/05/2024	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.6
	25/06/2024	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0.0
	11/07/2024	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.5
	6/08/2024	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	4.0
	11/09/2024	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.5
	9/10/2024	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.5
	6/11/2024	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.4
	16/12/2024	4.3	58	68	29	0.04	<0.1	12	<0.2	1.3	8.5	42	1.6	1.3	<0.5	1.9	<1	3.5
	14/01/2025	4.7	63	36	120	0.04	0.02	8.6	0.03	1.3	6.8	7.0	1.7	1.2	0.5	2.4	1.4	0.8
	11/02/2025	4.6	68	70	13	0.07	<0.1	9.2	<0.02	1.2	8.4	2	1.5	1.5	0.8	2.7	<1	0.2
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0***	**<1***	**<0.5***

ATTACHMENT 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
	16/12/2024	6.9	90	190	3.3	140	0.36	<0.01	8.2	<0.02	0.02	11	5.4	170	<10	0.7
	14/01/2025	6.7	48	7.2	3.5	89	0.14	<0.1	4.8	<0.02	0.6	5.4	<5	<0.005	<10	0.0
	11/02/2025	7.5	390	<5	8.3	620	0.06	0.03	110	<0.02	0.8	16	16	12	<10	0.1
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	0.00
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	<1
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	<1
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	<1
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	<1
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	<1
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	<1
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	<1
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	<1
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	<1
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	<1
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	<1
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	<1
	26/02/2024	<0.005	<0.001	<0.0002	14.00	<0.001	<0.001	0.93	<0.001	4.60	<0.0001	<0.001	1.70	0.05	<1
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	<1
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	<1
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	<1
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	<1
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	<1
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	<1
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	<1
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	<1
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	<1
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	<1
	16/12/2024	2.4	0.004	<0.0002	22	0.006	0.019	38	0.006	4.5	<0.0001	0.004	2.8	0.092	<1
	14/01/2025	0.15	<0.001	<0.0002	8.8	0.001	0.003	0.34	<0.001	1.8	<0.0001	0.001	0.6	0.018	<1
	11/02/2025	0.58	0.002	<0.0002	13.00	<0.001	<0.001	6.10	<0.001	3.50	<0.0001	0.002	1.00	0.015	<1
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
	16/12/2024	6.4	200	110	8.8	310	1.1	<0.01	55	<0.02	0.4	11	19	6.6	<10	0.35
	14/01/2025	6.9	170	<5	4.6	340	0.08	<0.01	51	<0.02	0.9	44	7.7	<0.005	<10	0.15
	11/02/2025	7.1	96	5.6	6.1	150	0.08	<0.01	14	<0.02	1.9	91	3.9	190	<10	0.28
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	<1
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	<1
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	<1
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	<1
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	<1
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	<1
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	<1
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	<1
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	<1
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	<1
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	<1
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	<1
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	<1
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	<1
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	<1
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	<1
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	<1
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	<1
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	<1
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	<1
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	<1
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	<1
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	<1
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	<1
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	<1
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	<1
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	<1
	16/12/2024	0.05	<0.001	<0.0002	14	<0.001	0.001	0.24	<0.001	3.1	<0.0001	<0.001	9.4	0.008	<1
	14/01/2025	0.06	<0.001	<0.0002	14	0.001	0.002	0.28	<0.001	2.7	<0.0001	0.001	9.4	0.015	<1
	11/02/2025	0.82	<0.001	<0.0002	24	<0.001	0.002	4.4	<0.001	4.8	<0.0001	0.005	19	0.058	<1
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
	16/12/2024	7.2	250	5.3	19.0	370	<0.01	<0.01	70	<0.02	0.7	61	31	50	<10	0.4
	14/01/2025	6.9	220	<5	7.7	420	0.04	<0.01	66	<0.02	1.3	57	11	<5	<10	0.2
	11/02/2025	7.4	340	<5	7.5	570	0.07	0.02	99	<0.02	1.4	87	14	<5	<10	0.1
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	<1
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	<1
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	<1
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	<1
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	<1
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	<1
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	<1
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	<1
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	<1
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	<1
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	<1
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	<1
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	<1
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	<1
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	<1
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	<1
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	<1
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	<1
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	<1
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	<1
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	<1
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	<1
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	<1
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	<1
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	<1
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	<1
	6/11/2024	3	0.00	<0.0002	23	0.002	0.00	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	<1
	16/12/2024	0.29	0.001	<0.0002	19	0.001	<0.001	1.6	<0.001	4.0	<0.0001	0.001	12	0.009	<1
	14/01/2025	0.17	0.001	<0.0002	17	<0.001	0.001	0.74	<0.001	3.3	<0.0001	0.001	12	0.016	<1
	11/02/2025	0.45	0.001	<0.0002	23	<0.001	<0.001	2.1	<0.001	4.5	<0.0001	0.001	18	0.031	<1
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.7
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.5
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.3
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.5
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.7
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.8
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.1
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.8
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.0
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.7
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.8
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.7
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.5
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.8
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.9
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.2
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.5
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.8
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.0
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.0
	16/12/2024	5.7	210	420	0.2	360	0.10	0.25	13	<0.02	13	12	110	7	25	8.5
	14/01/2025	4.1	310	120	4.9	460	0.13	0.03	6.3	<0.02	1.3	11	64	<5	<10	10.2
	11/02/2025	7.6	700	<5	8.8	1000	0.01	0.03	5.8	<0.02	1.3	21	150	7.7	<10	25.9
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	<1
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	<1
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	<1
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	<1
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	<1
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	<1
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	<1
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.41
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	<1
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	<1
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	<1
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	<1
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	<1
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	<1
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	<1
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	<1
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	<1
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	<1
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	<1
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	<1
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	<1
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	<1
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	<1
	16/12/2024	4.4	0.007	<0.0002	29	0.009	0.006	170	0.003	4.5	<0.0001	0.009	1.3	0.035	<1
	14/01/2025	1.2	<0.001	<0.0002	53	<0.001	0.001	5.8	<0.001	5.8	<0.0001	0.014	0.8	0.039	<1
	11/02/2025	<0.05	<0.001	<0.0002	200	<0.001	<0.001	0.14	<0.001	18	<0.0001	0.004	<0.5	0.033	<1
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
	16/12/2024	7.4	31000	26	9.3	44000	0.02	0.14	1400	<0.02	0.4	<0.5	2000	<5	<10	1.43
	14/01/2025	7.1	19000	9.4	6.2	30000	0.04	0.04	12000	<0.02	0.3	5500	500	<5	<10	0.04
	11/02/2025	7.5	24000	9.1	8.5	35000	0.03	0.06	6300	<0.02	<0.2	6900	260	<5	<10	0.04
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	<1
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	<1
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	<1
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	<1
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	<1
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	<1
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	<1
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	<1
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	<1
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	<1
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	<1
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	<1
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	<1
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	<1
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	<1
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	<1
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	<1
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	<1
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	<1
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	<1
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	<1
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	<1
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	<1
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	<1
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	<1
	16/12/2024	<0.05	<0.001	<0.0002	<0.5	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.24	0.002	<0.0002	230	0.002	<0.001	0.64	<0.001	660	<0.0001	<0.001	210	0.006	<1
	11/02/2025	0.12	0.002	<0.0002	290	0.001	<0.001	0.5	<0.001	820	<0.0001	<0.001	260	0.047	<1
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
	16/12/2024	7.7	33000	13	9.5	47000	0.01	0.18	16000	<0.02	<0.2	<0.5	2,100	<5	<10	0.13
	14/01/2025	7.2	25000	11	6.3	38000	0.03	0.06	15000	<0.02	0.7	7200	600	<5	<10	0.04
	11/02/2025	7.6	24000	11	7.2	34000	0.003	0.06	6100	<0.02	<0.2	7200	240	5.9	<10	0.04
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	<1
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	<1
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	<1
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	<1
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	<1
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	<1
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	<1
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	<1
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	<1
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	<1
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	<1
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	<1
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	<1
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	<1
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	<1
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	<1
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	<1
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	<1
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	<1
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	<1
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	<1
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	<1
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	<1
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	<1
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	<1
	16/12/2024	4.4	0.007	<0.0002	29	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.15	0.002	<0.0002	300	0.002	<0.001	0.3	<0.001	860	<0.0001	<0.001	270	<0.005	<1
	11/02/2025	0.09	0.002	<0.0002	300	0.001	<0.001	0.38	<0.001	850	<0.0001	<0.001	270	0.048	<1
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	**-**	**0.0033**	**0.0018**	**0.3**	**0.0034**	**-**	**0.0006**	**0.011**	**-**	**0.008**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

ATTACHMENT 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	11/02/2025

Description

Image depicts southern swale drain adjacent to Melaleuca Drive. Surface water is noted to be accumulating in this area.



Photo No.	Date
2	11/02/2025

Description

Surface water monitoring location SW02



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	11/02/2025

Description

Surface water monitoring location SW04.

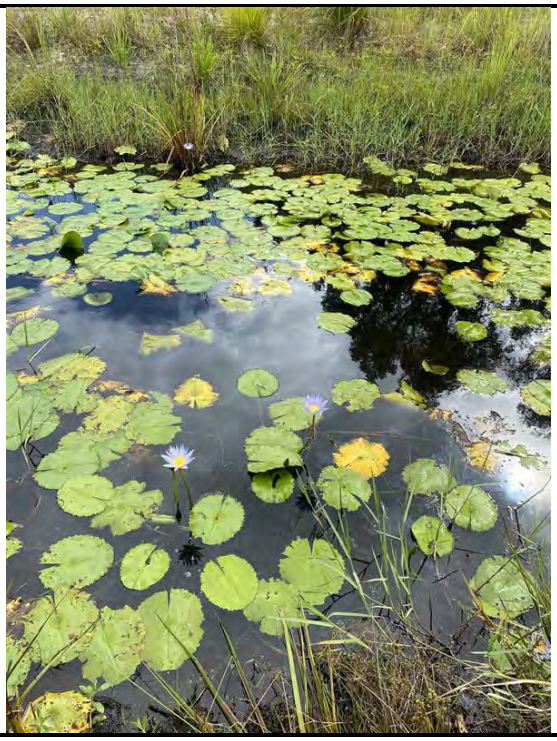


Photo No.	Date
4	11/02/2025

Description

Surface water monitoring location SW04.



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 24th March 2025

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

09/04/2025

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_March_2025

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	09/04/2025	
Reviewed By:	Kingsley Baldwin	10/04/2025	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

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ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Attachment 1.

An assessment of the monthly analytical results presented in Attachment 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of EC, TDS, TN and Al.	No site related impacts identified at this monitoring location. All elevated parameters are marginally outside baseline values with the exception of aluminium where no baseline data was recorded.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges with the exception of TN.	No site related impacts identified at this location. Aluminium concentrations have returned within baseline criteria since the previous monitoring round.
MW5	pH, EC, TDS, SO_4,TN, Al and cations/anions (Cl, Na, Ca, Mg) concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. Water quality at MW5 remains poor although trends of each element continue to trend lower indicating general improvements in water quality.
MW7	All parameters were within baseline ranges with the exception of pH, SO_4 and Al.	No site related impacts identified at this location.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Attachment 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Attachment 3. Select photos of the surface water sampling programme are presented in Attachment 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Attachment 3, identified the following observations:

Site	Observation	Comments
SW01	All parameters were within baseline ranges.	No site related impacts identified.
SW02	pH, EC, SO_4 and several cations/anions (Al, Ca, Cr, Mg, and Ni) were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site. Significant drop in pH recorded that has mobilised cations/anion sulfate complexes and metals. No site related impacts identified.
SW03	pH, SO_4, several cations/anions (Na and K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works and SW02. Elevated analytes have improved since the previous monitoring round (TDS, EC, and Ca). There is no observable impact derived from the site.

Site	Observation	Comments
SW04	pH, EC, TDS, SO_4, and several cations/anions (Na, Ca, Mg, Ni and Zn) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. pH returned to below baseline values. Water flow at SW04 has been noted to be stagnant with restrictions within the drain causing water to back up restrictions in the section of the drain adjacent to Melaleuca Drive. Aluminium concentrations have remained within baseline ranges for the past three monitoring rounds whilst analyte trends continue to trend lower indicating a considerable improvement in water quality within the drainage network.
SW05	TN, SO_4, and Zn were outside baseline ranges.	TDS and EC have returned to be within historic baseline ranges. Ca, Mg, K and Na have also improved since the previous monitoring round. No site related impacts identified.
SW06	EC, TN, Al, Fe and Zn were recorded outside ANZG default guideline values (95% for slightly disturbed river systems).	Water quality at SW06 remains similar to that observed upstream at SW05. As such, no definitive degradation in water quality is observed between the two locations. No site related impacts observed.

3 RAINFALL

During this monitoring period (11/02/2025 – 24/03/2025), 259.8 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), despite water quality parameters gradually improving, water quality remains poor at this location.

Water quality reported at SW03 shows better overall quality than upstream (SW02) water quality, inferring no discernible site related impacts.

The groundwater monitoring network continues to present indicators of localised impact from acid sulfate soils adjacent to MW5.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site:

- Re-instate routine monthly ag-lime dusting of the drainage network with particular focus on the southern swale to buffer pH and metal attenuation.

ATTACHMENT 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

ENV Solutions
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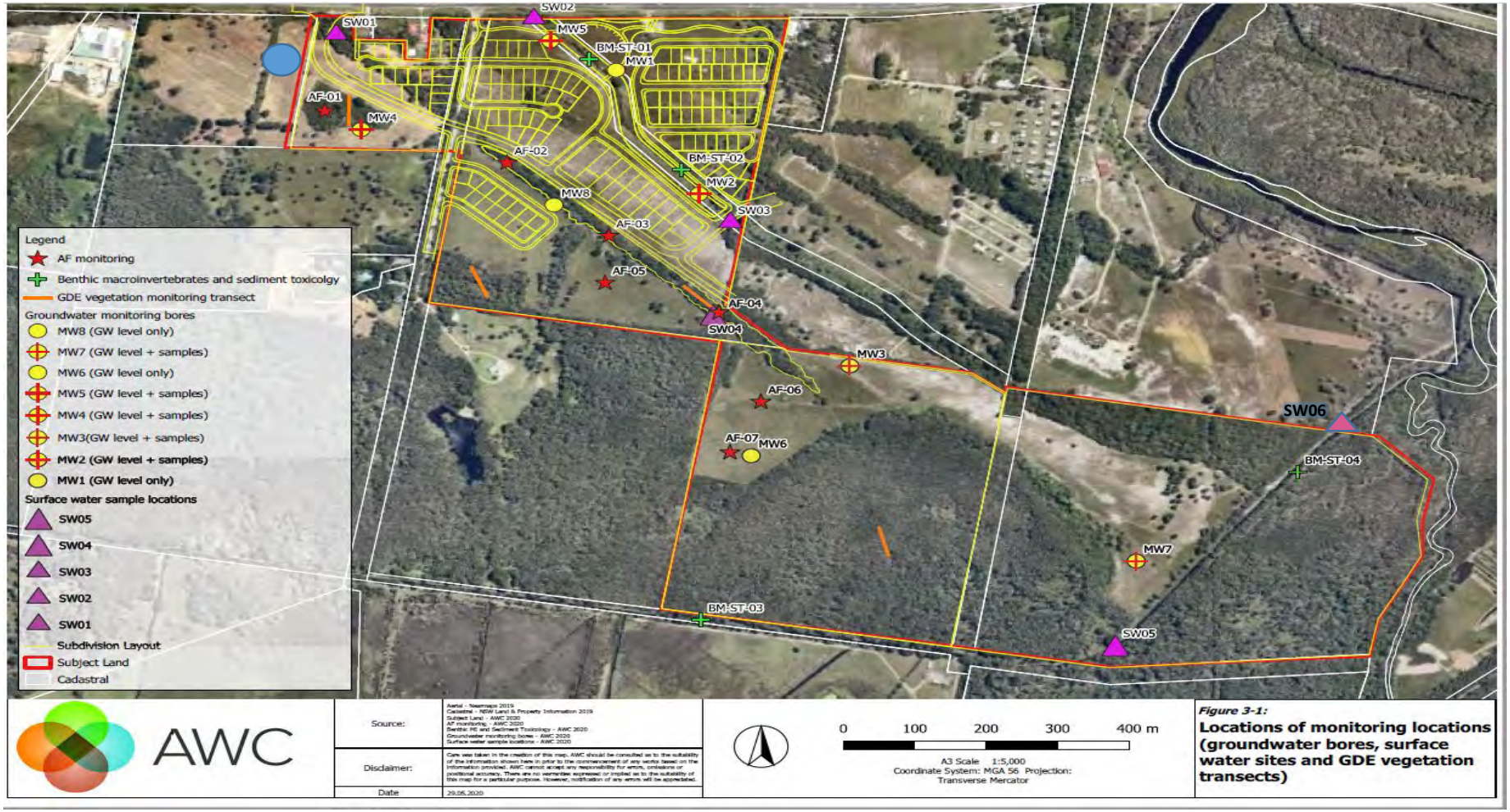


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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ATTACHMENT 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

ENV
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/2022	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.1
	20/10/2022	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.1
	14/11/2022	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.1
	14/12/2022	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.3
	18/01/2023	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.4
	20/02/2023	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.1
	28/03/2023	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.5
	18/04/2023	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.3
	18/05/2023	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.2
	25/06/2023	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.4
	24/07/2023	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.0
	21/08/2023	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.2
	18/09/2023	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.1
	18/10/2023	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.2
	20/11/2023	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.3
	19/12/2023	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.1
	20/01/2024	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.1
	26/02/2024	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.9
	26/03/2024	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.4
	18/04/2024	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/2024	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.2
	25/06/2024	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.0
	10/07/2024	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.1
	6/08/2024	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.2
	11/09/2024	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.0
	9/10/2024	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.1
	6/11/2024	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.1
	16/12/2024	6.0	120	60	8.0	0.05	<0.1	16	<0.2	0.9	30	5.3	0.14	0.8	2.8	3.5	0.14	0.3
	14/01/2025	6.4	150	94	610.0	0.03	<0.05	15	<0.1	<0.25	31	<2	<0.5	0.6	2.4	2.7	1	0.1
	11/02/2025	5.7	170	150	<5	0.04	<0.1	13	<0.02	<0.5	29	2.8	<0.5	0.6	2.4	2.8	<1	0.2
	24/03/2024	5.7	120	190	<5	<0.05	0.05	36	0.02	4.2	28	5.8	<0.5	0.7	2.4	2.7	<1	0.2
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0***	**<1***	**<0.5***
MW3	29/09/2022	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.1
	20/10/2022	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.1
	14/11/2022	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.1
	14/12/2022	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.2
	18/01/2023	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.0
	20/02/2023	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.1
	28/03/2023	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.3
	18/04/2023	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.4
	18/05/2023	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.4
	15/06/2023	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.5
	24/07/2023	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.3
	21/08/2023	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.5
	18/09/2023	Dry – no sample collected																
	18/10/2023	Dry – no sample collected																
	20/11/2023	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.6
	19/12/2023	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.4
	20/01/2024	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.2
	26/02/2024	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.5
	26/03/2024	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.2
	18/04/2024	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.3
	20/05/2024	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.1
	25/06/2024	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.1
	10/07/2024	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.6
	6/08/2024	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.2
	11/09/2024	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.2
	9/10/2024	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.2
	6/11/2024	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.2
	16/12/2024	4.3	35	24	63	0.02	<0.01	4.4	<0.02	0.5	3.8	2.2	<0.5	0.7	<0.5	0.75	<1	0.5
	14/01/2025	4.5	40	20	38	0.03	0.01	3.3	<0.02	0.5	2.8	<2	<0.5	<0.5	<0.5	0.75	<1	0.3
	11/02/2025	4.2	64	36	8.2	<0.01	<0.01	2.9	<0.02	<0.2	3.1	4.4	<0.5	<0.5	<0.5	1.1	<1	1.5
	24/03/2025	4	79	50	150	0.02	<0.01	13	<0.02	0.9	5.8	3.9	0.8	1.1	<0.5	0.52	1.5	0.3
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4	29/09/2022	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.0
	20/10/2022	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.1
	14/11/2022	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.2
	14/12/2022	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.3
	18/01/2023	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.3
	20/02/2023	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.4
	28/03/2023	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.2
	18/04/2023	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.8
	18/05/2023	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.7
	15/06/2023	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.4
	24/07/2023	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.7
	21/08/2023	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.2
	18/09/2023	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.5
	18/10/2023	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.4
	20/11/2023	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.3
	19/12/2023	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.3
	20/01/2024	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.1
	26/02/2024	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.4
	26/03/2024	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.3
	18/04/2024	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.4
	20/05/2024	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.4
	25/06/2024	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.2
	10/07/2024	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.5
	6/08/2024	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.2
	11/09/2024	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.1
	9/10/2024	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.2
	6/11/2024	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.1
	16/12/2024	5.7	80	70	<5	0.02	<0.1	18	<0.2	1	11	4.1	8.1	3	<0.5	0.99	7.2	0.2
	14/01/2025	4.1	180	120	86	0.02	1.3	26	<0.02	1.2	14	2.4	4.4	3.8	<0.5	1.6	<1	0.1
	11/02/2025	4.1	170	150	<5	0.01	<0.1	25	<0.02	<0.5	16	3.1	2.5	4.8	<0.5	1.8	<1	0.1
	24/03/2025	5	110	84	39	<0.05	0.04	22	0.02	5	13	7.6	4.9	3.4	<0.5	0.85	5.76	0.3
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0***	**<1***	**<0.5***
MW5	29/09/2022	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.1
	20/10/2022	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.1
	14/11/2022	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.0
	14/12/2022	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.3
	18/01/2023	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.2
	20/02/2023	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.8
	28/03/2023	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.3
	18/04/2023	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.4
	18/05/2023	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.7
	15/06/2023	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.0
	24/07/2023	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.3
	21/08/2023	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.8
	18/09/2023	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.3
	18/10/2023	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.2
	20/11/2023	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.0
	19/12/2023	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.8
	20/01/2024	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.2
	26/02/2024	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.0
	26/03/2024	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.6
	18/04/2024	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.3
	20/05/2024	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.7
	25/06/2024	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.4
	11/07/2024	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.7
	6/08/2024	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.1
	11/09/2024	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.8
	9/10/2024	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.2
	6/11/2024	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.5
	16/12/2024	3.2	1,800	1,100	53	0.02	21	32	<0.2	2.8	25	980	180	21	2.4	35	5.1	30.6
	14/01/2025	3.7	1,600	1,400	190	<0.01	1.3	19	<0.02	2.1	16	320	210	16	1.8	25	8.4	16.8
	11/02/2025	3.5	2,000	1,700	69	0.01	2.6	160	<0.02	14	110	860	110	50	2.8	56	1.96	5.4
	24/03/2025	3.6	1,000	890	38	<0.05	0.06	20	<0.02	3.3	14	570	140	8.5	1.7	17	8.24	28.5
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	29/09/2022	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.1
	20/10/2022	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.1
	14/11/2022	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.1
	14/12/2022	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.3
	18/01/2023	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.1
	20/02/2023	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.6
	28/03/2023	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.1
	18/04/2023	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.9
	18/05/2023	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.8
	15/06/2023	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.6
	24/07/2023	5.1	140	100	90	0.12	<0.1	10	<0.2	1.	8.5	14	1.9	1.4	0.9			1.4
	21/08/2023	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.4
	18/09/2023	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.6
	18/10/2023	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.5
	20/11/2023	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.3
	19/12/2023	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.3
	20/01/2024	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.6
	26/02/2024	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.2
	26/03/2024	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.8
	18/04/2024	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	<1	42.7
	20/05/2024	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.6
	25/06/2024	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0.0
	11/07/2024	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.5
	6/08/2024	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	4.0
	11/09/2024	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.5
	9/10/2024	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.5
	6/11/2024	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.4
	16/12/2024	4.3	58	68	29	0.04	<0.1	12	<0.2	1.3	8.5	42	1.6	1.3	<0.5	1.9	<1	3.5
	14/01/2025	4.7	63	36	120	0.04	0.02	8.6	0.03	1.3	6.8	7.0	1.7	1.2	0.5	2.4	1.4	0.8
	11/02/2025	4.6	68	70	13	0.07	<0.1	9.2	<0.02	1.2	8.4	2	1.5	1.5	0.8	2.7	<1	0.2
	24/03/2025	4.1	0	56	28	<0.05	0.02	15	<0.002	1.8	7.7	43	2.3	1.4	<0.5	1.2	1.91	2.9
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0***	**<1***	**<0.5***

ATTACHMENT 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
	16/12/2024	6.9	90	190	3.3	140	0.36	<0.01	8.2	<0.02	0.02	11	5.4	170	<10	0.7
	14/01/2025	6.7	48	7.2	3.5	89	0.14	<0.1	4.8	<0.02	0.6	5.4	<5	<0.005	<10	0.0
	11/02/2025	7.5	390	<5	8.3	620	0.06	0.03	110	<0.02	0.8	16	16	12	<10	0.1
	24/03/2025	6.9	58	<5	8.6	64	0.32	0.02	6.1	<0.02	0.8	7.9	2.4	48	<10	0.4
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	0.00
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	<1
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	<1
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	<1
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	<1
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	<1
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	<1
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	<1
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	<1
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	<1
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	<1
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	<1
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	<1
	26/02/2024	<0.005	<0.001	<0.0002	14.00	<0.001	<0.001	0.93	<0.001	4.60	<0.0001	<0.001	1.70	0.05	<1
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	<1
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	<1
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	<1
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	<1
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	<1
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	<1
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	<1
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	<1
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	<1
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	<1
	16/12/2024	2.4	0.004	<0.0002	22	0.006	0.019	38	0.006	4.5	<0.0001	0.004	2.8	0.092	<1
	14/01/2025	0.15	<0.001	<0.0002	8.8	0.001	0.003	0.34	<0.001	1.8	<0.0001	0.001	0.6	0.018	<1
	11/02/2025	0.58	0.002	<0.0002	13.00	<0.001	<0.001	6.10	<0.001	3.50	<0.0001	0.002	1.00	0.015	<1
	24/03/2025	0.13	<0.001	<0.0002	5.20	<0.001	0.002	0.35	<0.001	1.40	<0.0001	<0.001	1.20	0.037	<1
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
	16/12/2024	6.4	200	110	8.8	310	1.1	<0.01	55	<0.02	0.4	11	19	6.6	<10	0.35
	14/01/2025	6.9	170	<5	4.6	340	0.08	<0.01	51	<0.02	0.9	44	7.7	<0.005	<10	0.15
	11/02/2025	7.1	96	5.6	6.1	150	0.08	<0.01	14	<0.02	1.9	91	3.9	190	<10	0.28
	24/03/2024	3.2	420	7.2	8.6	670	<0.05	0.02	17	<0.02	2.8	17	250	<5	<10	14.71
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	<1
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	<1
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	<1
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	<1
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	<1
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	<1
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	<1
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	<1
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	<1
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	<1
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	<1
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	<1
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	<1
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	<1
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	<1
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	<1
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	<1
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	<1
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	<1
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	<1
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	<1
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	<1
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	<1
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	<1
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	<1
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	<1
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	<1
	16/12/2024	0.05	<0.001	<0.0002	14	<0.001	0.001	0.24	<0.001	3.1	<0.0001	<0.001	9.4	0.008	<1
	14/01/2025	0.06	<0.001	<0.0002	14	0.001	0.002	0.28	<0.001	2.7	<0.0001	0.001	9.4	0.015	<1
	11/02/2025	0.82	<0.001	<0.0002	24	<0.001	0.002	4.4	<0.001	4.8	<0.0001	0.005	19	0.058	<1
	24/03/2024	7.4	<0.001	<0.0002	56	0.002	0.001	22	<0.001	6.9	<0.0001	0.021	1.8	0.097	<1
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
	16/12/2024	7.2	250	5.3	19.0	370	<0.01	<0.01	70	<0.02	0.7	61	31	50	<10	0.4
	14/01/2025	6.9	220	<5	7.7	420	0.04	<0.01	66	<0.02	1.3	57	11	<5	<10	0.2
	11/02/2025	7.4	340	<5	7.5	570	0.07	0.02	99	<0.02	1.4	87	14	<5	<10	0.1
	24/03/2024	6.9	130	<5	8.1	230	0.05	<0.01	38	<0.02	0.9	32	66	<5	<10	1.7
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	<1
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	<1
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	<1
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	<1
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	<1
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	<1
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	<1
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	<1
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	<1
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	<1
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	<1
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	<1
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	<1
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	<1
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	<1
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	<1
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	<1
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	<1
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	<1
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	<1
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	<1
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	<1
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	<1
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	<1
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	<1
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	<1
	6/11/2024	3	0.00	<0.0002	23	0.002	0.002	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	<1
	16/12/2024	0.29	0.001	<0.0002	19	0.001	<0.001	1.6	<0.001	4.0	<0.0001	0.001	12	0.009	<1
	14/01/2025	0.17	0.001	<0.0002	17	<0.001	0.001	0.74	<0.001	3.3	<0.0001	0.001	12	0.016	<1
	11/02/2025	0.45	0.001	<0.0002	23	<0.001	<0.001	2.1	<0.001	4.5	<0.0001	0.001	18	0.031	<1
	24/03/2024	0.18	0.001	<0.0002	10	<0.001	0.002	0.8	<0.001	2.6	<0.0001	0.001	6.6	0.036	<1
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.7
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.5
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.3
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.5
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.7
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.8
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.1
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.8
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.0
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.7
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.8
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.7
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.5
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.8
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.9
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.2
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.5
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.8
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.0
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.0
	16/12/2024	5.7	210	420	0.2	360	0.10	0.25	13	<0.02	13	12	110	7	25	8.5
	14/01/2025	4.1	310	120	4.9	460	0.13	0.03	6.3	<0.02	1.3	11	64	<5	<10	10.2
	11/02/2025	7.6	700	<5	8.8	1000	0.01	0.03	5.8	<0.02	1.3	21	150	7.7	<10	25.9
	24/03/2025	3.9	390	21	7.4	470	0.03	0.03	18	<0.02	1.5	24	180	8.1	<10	10.0
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	<1
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	<1
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	<1
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	<1
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	<1
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	<1
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	<1
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.41
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	<1
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	<1
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	<1
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	<1
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	<1
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	<1
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	<1
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	<1
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	<1
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	<1
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	<1
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	<1
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	<1
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	<1
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	<1
	16/12/2024	4.4	0.007	<0.0002	29	0.009	0.006	170	0.003	4.5	<0.0001	0.009	1.3	0.035	<1
	14/01/2025	1.2	<0.001	<0.0002	53	<0.001	0.001	5.8	<0.001	5.8	<0.0001	0.014	0.8	0.039	<1
	11/02/2025	<0.05	<0.001	<0.0002	200	<0.001	<0.001	0.14	<0.001	18	<0.0001	0.004	<0.5	0.033	<1
	24/03/2025	1.1	<0.001	<0.0002	52	<0.001	0.002	6.6	<0.001	8.5	<0.0001	0.012	2.3	0.10	<1
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	-	**200**	**100**	-	**50**	**100**	**60**	**100**	-

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
	16/12/2024	7.4	31000	26	9.3	44000	0.02	0.14	1400	<0.02	0.4	<0.5	2000	<5	<10	1.43
	14/01/2025	7.1	19000	9.4	6.2	30000	0.04	0.04	12000	<0.02	0.3	5500	500	<5	<10	0.04
	11/02/2025	7.5	24000	9.1	8.5	35000	0.03	0.06	6300	<0.02	<0.2	6900	260	<5	<10	0.04
	24/03/2024	6.3	1600	<5	7	2500	<0.1	0.12	790	<0.02	4.4	440	140	<5	<10	0.18
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	<1
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	<1
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	<1
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	<1
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	<1
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	<1
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	<1
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	<1
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	<1
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	<1
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	<1
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	<1
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	<1
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	<1
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	<1
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	<1
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	<1
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	<1
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	<1
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	<1
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	<1
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	<1
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	<1
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	<1
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	<1
	16/12/2024	<0.05	<0.001	<0.0002	<0.5	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.24	0.002	<0.0002	230	0.002	<0.001	0.64	<0.001	660	<0.0001	<0.001	210	0.006	<1
	11/02/2025	0.12	0.002	<0.0002	290	0.001	<0.001	0.5	<0.001	820	<0.0001	<0.001	260	0.047	<1
	24/03/2024	0.54	<0.001	<0.0002	22	<0.001	0.001	3.2	<0.001	53	<0.0001	0.002	17	0.32	<1
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
	16/12/2024	7.7	33000	13	9.5	47000	0.01	0.18	16000	<0.02	<0.2	<0.5	2,100	<5	<10	0.13
	14/01/2025	7.2	25000	11	6.3	38000	0.03	0.06	15000	<0.02	0.7	7200	600	<5	<10	0.04
	11/02/2025	7.6	24000	11	7.2	34000	0.003	0.06	6100	<0.02	<0.2	7200	240	5.9	<10	0.04
	24/03/2025	6.5	1700	<5	6.8	2500	<0.1	0.12	820	<0.02	4.2	450	110	<5	<10	0.13
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	-	**<50**	-	**<2200**	**<0.05**	-	-	-	**<0.50**	-	-	**5**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	<1
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	<1
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	<1
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	<1
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	<1
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	<1
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	<1
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	<1
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	<1
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	<1
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	<1
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	<1
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	<1
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	<1
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	<1
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	<1
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	<1
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	<1
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	<1
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	<1
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	<1
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	<1
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	<1
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	<1
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	<1
	16/12/2024	4.4	0.007	<0.0002	29	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.15	0.002	<0.0002	300	0.002	<0.001	0.3	<0.001	860	<0.0001	<0.001	270	<0.005	<1
	11/02/2025	0.09	0.002	<0.0002	300	0.001	<0.001	0.38	<0.001	850	<0.0001	<0.001	270	0.048	<1
	24/03/2025	0.55	<0.001	<0.0002	22	<0.001	<0.001	3.4	<0.001	54	<0.0001	0.002	17	0.027	<1
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	**-**	**0.0033**	**0.0018**	**0.3**	**0.0034**	**-**	**0.0006**	**0.011**	**-**	**0.008**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

ATTACHMENT 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	24/03/2025

Description

Union drain adjacent tot Melaleuca Drive.



Photo No.	Date
2	24/03/2025

Description

Surface water monitoring location SW02



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	24/03/2025

Description

Surface water monitoring location SW04.



Photo No.	Date
4	24/03/2025

Description

Surface water monitoring location SW05.



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 8th April 2025

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

12/05/2025

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_April_2025

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	01/05/2025	
Reviewed By:	Kingsley Baldwin	12/05/2025	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

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ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Appendix 1.

An assessment of the monthly analytical results presented in Appendix 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of TDS, Na and Al.	No site related impacts identified at this monitoring location. Na is marginally outside of baseline values. There are no baselines values for Al.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges.	No site related impacts identified at this location.
MW5	pH, EC, TDS, SO_4, Al and cations/anions (Na, Ca, Mg) concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. Water quality at MW5 remains poor, despite multiple parameters have improved since the previous monitoring rounds and long-term trends indicate overall improvements in water quality.
MW7	All parameters were within baseline ranges with the exception of pH, SO_4 and Al.	No site related impacts identified at this location.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Appendix 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Appendix 3. Select photos of the surface water sampling programme are presented in Appendix 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Appendix 3, identified the following observations:

Site	Observation	Comments
SW01	All parameters were within baseline ranges with the exception of Ca and Fe.	No site related impacts identified.
SW02	pH, EC, SO_4 and cations/anions (Ca and Mg) were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site. Multiple analytes have returned within baseline ranges since the previous monitoring round. No site related impacts identified.
SW03	pH, TDS, EC, SO_4, several cations/anions (Na and K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works and SW02. There is no observable impact derived from the site.

Site	Observation	Comments
SW04	pH, EC, TDS, SO_4, and several cations/anions (As, Ca, Fe, Mg and Ni) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. Water flow at SW04 has been noted to be stagnant with restrictions within the drain causing water to back up restrictions in the section of the drain adjacent to Melaleuca Drive. Aluminium concentrations have remained within baseline ranges for the past three monitoring rounds whilst analyte trends continue to trend lower indicating a considerable improvement in water quality within the drainage network.
SW05	All parameters were within baseline ranges	No site related impacts identified.
SW06	Al and Fe were recorded outside ANZG default guideline values (95% for slightly disturbed river systems).	Water quality at SW06 remains similar to that observed upstream at SW05. As such, no definitive degradation in water quality is observed between the two locations. No site related impacts observed.

3 RAINFALL

During this monitoring period (24/03/2025 – 8/04/2025), 139 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), despite water quality parameters gradually improving, water quality remains poor at this location.

Water quality reported at SW03 shows better overall quality than upstream (SW02) water quality, inferring no discernible site related impacts.

The groundwater monitoring network continues to present indicators of localised impact from acid sulfate soils adjacent to MW5.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site:

- Continue routine monthly ag-lime dusting of the drainage network with particular focus on the southern swale to buffer pH and metal attenuation.

APPENDIX 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

ENV Solutions
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

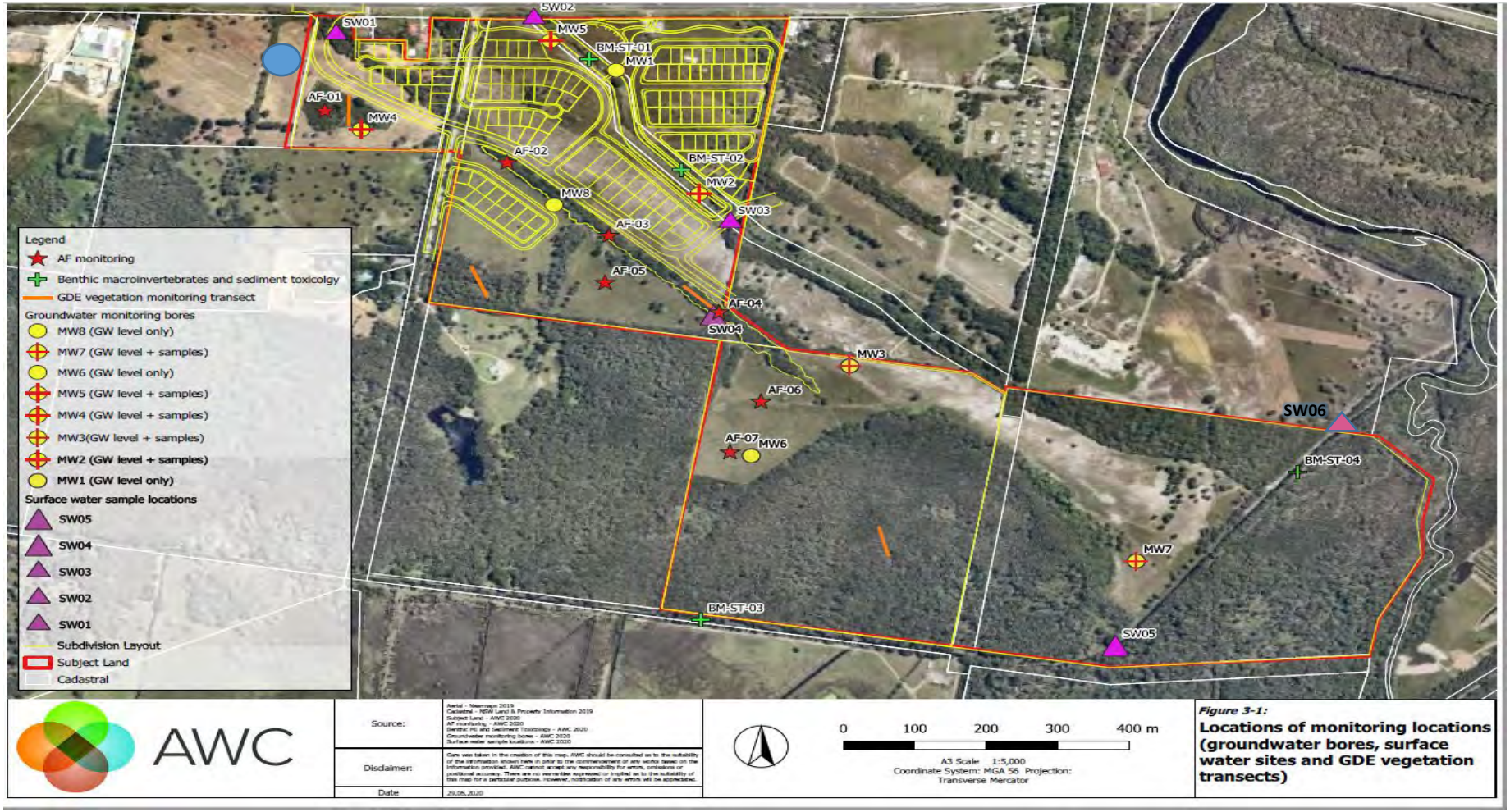


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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APPENDIX 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	09/29/22	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.1
	10/20/22	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.1
	11/14/22	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.1
	12/14/22	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.3
	01/18/23	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.4
	02/20/23	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.1
	03/28/23	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.5
	04/18/23	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.3
	05/18/23	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.2
	06/25/23	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.4
	07/24/23	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.0
	08/21/23	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.2
	09/18/23	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.1
	10/18/23	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.2
	11/20/23	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.3
	12/19/23	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.1
	01/20/24	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.1
	02/26/24	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.9
	03/26/24	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.4
	04/18/24	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	05/20/24	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.2
	06/25/24	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.0
	07/10/24	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.1
	08/06/24	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.2
	09/11/24	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.0
	10/09/24	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.1
	11/06/24	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.1
	12/16/24	6.0	120	60	8.0	0.05	<0.1	16	<0.2	0.9	30	5.3	0.14	0.8	2.8	3.5	0.14	0.3
	01/14/25	6.4	150	94	610.0	0.03	<0.05	15	<0.1	<0.25	31	<2	<0.5	0.6	2.4	2.7	1	0.1
	11/02/25	5.7	170	150	<5	0.04	<0.1	13	<0.02	<0.5	29	2.8	<0.5	0.6	2.4	2.8	<1	0.2
	03/24/25	5.7	120	190	<5	<0.05	0.05	36	0.02	4.2	28	5.8	<0.5	0.7	2.4	2.7	<1	0.2
	08/04/25	5.7	120	220	<5	0.02	0.03	16	0.03	<2	31	4.2	<0.5	0.7	2.6	3.5	<1	0.3
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW3	09/29/22	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.1
	10/20/22	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.1
	11/14/22	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.1
	12/14/22	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.2
	01/18/23	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.0
	02/20/23	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.1
	03/28/23	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.3
	04/18/23	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.4
	05/18/23	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.4
	06/15/23	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.5
	07/24/23	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.3
	08/21/23	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.5
	09/18/23	Dry – no sample collected																
	10/18/23	Dry – no sample collected																
	11/20/23	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.6
	12/19/23	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.4
	01/20/24	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.2
	02/26/24	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.5
	26/03/2024	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.2
	04/18/24	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.3
	05/20/24	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.1
	06/25/24	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.1
	07/10/24	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.6
	08/06/24	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.2
	09/11/24	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.2
	10/09/24	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.2
	11/06/24	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.2
	14/12/24	4.3	35	24	63	0.02	<0.01	4.4	<0.02	0.5	3.8	2.2	<0.5	0.7	<0.5	0.75	<1	0.5
	01/14/25	4.5	40	20	38	0.03	0.01	3.3	<0.02	0.5	2.8	<2	<0.5	<0.5	<0.5	0.75	<1	0.3
	11/02/25	4.2	64	36	8.2	<0.01	<0.01	2.9	<0.02	<0.2	3.1	4.4	<0.5	<0.5	<0.5	1.1	<1	1.5
	24/03/25	4	79	50	150	0.02	<0.01	13	<0.02	0.9	5.8	3.9	0.8	1.1	<0.5	0.52	1.5	0.3
	08/04/25	4.2	71	38	160	<0.01	0.02	11	<0.02	0.9	7.3	4.1	0.9	1.4	2.6	0.58	1.5	0.4
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0***	**<1***	**<0.5***
MW4	09/29/22	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.0
	10/20/22	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.1
	11/14/22	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.2
	12/14/22	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.3
	01/18/23	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.3
	02/20/23	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.4
	03/28/23	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.2
	04/18/23	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.8
	05/18/23	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.7
	06/15/23	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.4
	07/24/23	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.7
	08/21/23	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.2
	09/18/23	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.5
	10/18/23	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.4
	11/20/23	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.3
	12/19/23	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.3
	01/20/24	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.1
	02/26/24	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.4
	26/03/2024	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.3
	04/18/24	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.4
	05/20/24	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.4
	06/25/24	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.2
	07/10/24	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.5
	08/06/24	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.2
	09/11/24	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.1
	10/09/24	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.2
	11/06/24	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.1
	12/16/24	5.7	80	70	<5	0.02	<0.1	18	<0.2	1	11	4.1	8.1	3	<0.5	0.99	7.2	0.2
	01/14/25	4.1	180	120	86	0.02	1.3	26	<0.02	1.2	14	2.4	4.4	3.8	<0.5	1.6	<1	0.1
	02/11/25	4.1	170	150	<5	0.01	<0.1	25	<0.02	<0.5	16	3.1	2.5	4.8	<0.5	1.8	<1	0.1
	03/24/25	5	110	84	39	<0.05	0.04	22	0.02	5	13	7.6	4.9	3.4	<0.5	0.85	5.76	0.3
	08/04/25	5.2	90	130	22	<0.01	0.03	16	<0.02	1	10	3.7	6.9	2.7	<0.5	0.58	11.9	0.2
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW5	09/29/22	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.1
	10/20/22	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.1
	11/14/22	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.0
	12/14/22	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.3
	01/18/23	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.2
	02/20/23	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.8
	03/28/23	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.3
	04/18/23	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.4
	05/18/23	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.7
	06/15/23	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.0
	07/24/23	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.3
	08/21/23	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.8
	09/18/23	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.3
	10/18/23	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.2
	11/20/23	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.0
	12/19/23	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.8
	01/20/24	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.2
	02/26/24	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.0
	03/26/24	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.6
	04/18/24	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.3
	05/20/24	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.7
	06/25/24	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.4
	07/11/24	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.7
	08/06/24	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.1
	09/11/24	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.8
	10/09/24	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.2
	11/06/24	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.5
	12/16/24	3.2	1,800	1,100	53	0.02	21	32	<0.2	2.8	25	980	180	21	2.4	35	5.1	30.6
	01/14/25	3.7	1,600	1,400	190	<0.01	1.3	19	<0.02	2.1	16	320	210	16	1.8	25	8.4	16.8
	02/11/25	3.5	2,000	1,700	69	0.01	2.6	160	<0.02	14	110	860	110	50	2.8	56	1.96	5.4
	03/24/25	3.6	1,000	890	38	<0.05	0.06	20	<0.02	3.3	14	570	140	8.5	1.7	17	8.24	28.5
	08/04/25	3.7	790	700	73	<0.01	0.85	36	<0.02	5.2	42	390	86	16.0	<0.5	13	6.6	10.8
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	09/29/22	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.1
	10/20/22	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.1
	11/14/22	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.1
	12/14/22	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.3
	01/18/23	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.1
	02/20/23	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.6
	03/28/23	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.1
	04/18/23	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.9
	05/18/23	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.8
	06/15/23	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.6
	07/24/23	5.1	140	100	90	0.12	<0.1	10	<0.2	1.	8.5	14	1.9	1.4	0.9			1.4
	08/21/23	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.4
	09/18/23	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.6
	10/18/23	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.5
	11/20/23	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.3
	12/19/23	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.3
	01/20/24	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.6
	02/26/24	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.2
	03/26/24	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.8
	04/18/24	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	<1	42.7
	05/20/24	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.6
	06/25/24	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0.0
	07/11/24	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.5
	08/06/24	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	4.0
	09/11/24	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.5
	10/09/24	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.5
	11/06/24	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.4
	12/16/24	4.3	58	68	29	0.04	<0.1	12	<0.2	1.3	8.5	42	1.6	1.3	<0.5	1.9	<1	3.5
	01/14/25	4.7	63	36	120	0.04	0.02	8.6	0.03	1.3	6.8	7.0	1.7	1.2	0.5	2.4	1.4	0.8
	02/11/25	4.6	68	70	13	0.07	<0.1	9.2	<0.02	1.2	8.4	2	1.5	1.5	0.8	2.7	<1	0.2
	03/24/25	4.1	0	56	28	<0.05	0.02	15	<0.02	1.8	7.7	43	2.3	1.4	<0.5	1.2	1.91	2.9
	08/03/25	4.4	76	70	14	<0.01	0.03	14	<0.02	<1	8.1	31	2.8	1.1	2.1	1.4	2	2.2
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0***	**<1***	**<0.5***

APPENDIX 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
	16/12/2024	6.9	90	190	3.3	140	0.36	<0.01	8.2	<0.02	0.02	11	5.4	170	<10	0.7
	14/01/2025	6.7	48	7.2	3.5	89	0.14	<0.1	4.8	<0.02	0.6	5.4	<5	<0.005	<10	0.0
	11/02/2025	7.5	390	<5	8.3	620	0.06	0.03	110	<0.02	0.8	16	16	12	<10	0.1
	24/03/2025	6.9	58	<5	8.6	64	0.32	0.02	6.1	<0.02	0.8	7.9	2.4	48	<10	0.4
	31/03/2025	7.1	170	5.8	9.2	200	0.14	<0.01	14	<0.02	1.1	15	6.4	<5	<10	0.5
	8/04/2025	7.2	200	9.4	8.8	230	0.37	0.04	14	<0.02	0.4	18	3.6	<5	<10	0.3
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	<1
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	<1
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	<1
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	<1
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	<1
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	<1
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	<1
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	<1
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	<1
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	<1
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	<1
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	<1
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	<1
	26/02/2024	<0.005	<0.001	<0.0002	14.00	<0.001	<0.001	0.93	<0.001	4.60	<0.0001	<0.001	1.70	0.05	<1
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	<1
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	<1
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	<1
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	<1
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	<1
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	<1
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	<1
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	<1
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	<1
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	<1
	16/12/2024	2.4	0.004	<0.0002	22	0.006	0.019	38	0.006	4.5	<0.0001	0.004	2.8	0.092	<1
	14/01/2025	0.15	<0.001	<0.0002	8.8	0.001	0.003	0.34	<0.001	1.8	<0.0001	0.001	0.6	0.018	<1
	11/02/2025	0.58	0.002	<0.0002	13.00	<0.001	<0.001	6.10	<0.001	3.50	<0.0001	0.002	1.00	0.015	<1
	24/03/2025	0.13	<0.001	<0.0002	5.20	<0.001	0.002	0.35	<0.001	1.40	<0.0001	<0.001	1.20	0.037	<1
	31/03/2025	0.10	0.002	<0.0002	22	<0.001	0.003	1.2	<0.001	6.8	<0.0001	0.002	2.4	0.066	<1
	8/04/2025	<0.05	0.002	<0.0002	29	<0.001	<0.001	2.2	<0.001	8.1	<0.0001	0.002	2.4	0.008	<1
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
	16/12/2024	6.4	200	110	8.8	310	1.1	<0.01	55	<0.02	0.4	11	19	6.6	<10	0.35
	14/01/2025	6.9	170	<5	4.6	340	0.08	<0.01	51	<0.02	0.9	44	7.7	<0.005	<10	0.15
	11/02/2025	7.1	96	5.6	6.1	150	0.08	<0.01	14	<0.02	1.9	91	3.9	190	<10	0.28
	24/03/2024	3.2	420	7.2	8.6	670	<0.05	0.02	17	<0.02	2.8	17	250	<5	<10	14.71
	31/03/2025	7.2	160	<5	9.8	200	0.14	0.05	14	<0.02	<0.4	16	7	<5	<10	0.50
	8/04/2025	7.2	150	12	6.2	230	0.37	0.03	14	<0.02	0.7	18	3.4	<5	<10	0.24
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	<1
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	<1
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	<1
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	<1
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	<1
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	<1
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	<1
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	<1
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	<1
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	<1
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	<1
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	<1
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	<1
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	<1
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	<1
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	<1
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	<1
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	<1
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	<1
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	<1
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	<1
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	<1
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	<1
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	<1
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	<1
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	<1
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	<1
	16/12/2024	0.05	<0.001	<0.0002	14	<0.001	0.001	0.24	<0.001	3.1	<0.0001	<0.001	9.4	0.008	<1
	14/01/2025	0.06	<0.001	<0.0002	14	0.001	0.002	0.28	<0.001	2.7	<0.0001	0.001	9.4	0.015	<1
	11/02/2025	0.82	<0.001	<0.0002	24	<0.001	0.002	4.4	<0.001	4.8	<0.0001	0.005	19	0.058	<1
	24/03/2024	7.4	<0.001	<0.0002	56	0.002	0.001	22	<0.001	6.9	<0.0001	0.021	1.8	0.097	<1
	31/03/2025	0.25	0.002	<0.0002	23	<0.001	0.003	1.7	<0.001	7.0	<0.0001	0.002	2.5	0.054	<1
	8/04/2025	0.10	0.001	<0.0002	29	<0.001	0.001	2.7	<0.001	8.3	<0.0001	0.002	2.3	0.015	<1
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
	16/12/2024	7.2	250	5.3	19.0	370	<0.01	<0.01	70	<0.02	0.7	61	31	50	<10	0.4
	14/01/2025	6.9	220	<5	7.7	420	0.04	<0.01	66	<0.02	1.3	57	11	<5	<10	0.2
	11/02/2025	7.4	340	<5	7.5	570	0.07	0.02	99	<0.02	1.4	87	14	<5	<10	0.1
	24/03/2024	6.9	130	<5	8.1	230	0.05	<0.01	38	<0.02	0.9	32	66	<5	<10	1.7
	31/03/2025	7.0	260	9.3	9.8	440	0.06	0.19	100	<0.02	0.9	70	26	<5	<10	0.3
	8/04/2025	7.2	290	<5	8.9	470	0.04	0.07	100	<0.02	0.4	82	36	<5	<10	0.4
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	<1
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	<1
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	<1
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	<1
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	<1
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	<1
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	<1
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	<1
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	<1
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	<1
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	<1
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	<1
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	<1
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	<1
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	<1
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	<1
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	<1
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	<1
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	<1
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	<1
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	<1
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	<1
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	<1
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	<1
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	<1
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	<1
	6/11/2024	3	0.00	<0.0002	23	0.002	0.002	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	<1
	16/12/2024	0.29	0.001	<0.0002	19	0.001	<0.001	1.6	<0.001	4.0	<0.0001	0.001	12	0.009	<1
	14/01/2025	0.17	0.001	<0.0002	17	<0.001	0.001	0.74	<0.001	3.3	<0.0001	0.001	12	0.016	<1
	11/02/2025	0.45	0.001	<0.0002	23	<0.001	<0.001	2.1	<0.001	4.5	<0.0001	0.001	18	0.031	<1
	24/03/2024	0.18	0.001	<0.0002	10	<0.001	0.002	0.8	<0.001	2.6	<0.0001	0.001	6.6	0.036	<1
	31/03/2025	0.42	0.002	<0.0002	21	<0.001	0.001	3.5	<0.001	4.9	<0.0001	0.002	11	0.045	<1
	8/04/2025	0.30	<0.001	<0.0002	21	<0.001	<0.001	1.3	<0.001	5.4	<0.0001	0.002	11	0.012	<1
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS (mg/L)	TSS (mg/L)	DO (mg/L)	EC (µδ/cm)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 as S (mg/L)	Chlorophyll a (µg/L)	Acidity (as CaCO3) mg/L	Sulphate : Chloride Ratio :
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.7
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.5
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.3
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.5
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.7
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.8
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.1
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.8
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.0
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.7
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.8
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.7
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.5
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.8
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.9
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.2
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.5
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.8
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.0
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.0
	16/12/2024	5.7	210	420	0.2	360	0.10	0.25	13	<0.02	13	12	110	7	25	8.5
	14/01/2025	4.1	310	120	4.9	460	0.13	0.03	6.3	<0.02	1.3	11	64	<5	<10	10.2
	11/02/2025	7.6	700	<5	8.8	1000	0.01	0.03	5.8	<0.02	1.3	21	150	7.7	<10	25.9
	24/03/2025	3.9	390	21	7.4	470	0.03	0.03	18	<0.02	1.5	24	180	8.1	<10	10.0
	31/03/2025	6.3	260	70	10	370	<0.01	0.10	11	<0.02	0.8	16	160	<5	<10	14.5
	8/04/2025	6.0	430	43	4.1	470	0.09	0.27	11	0.04	2.3	18	240	<10	16	21.8
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	<1
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	<1
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	<1
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	<1
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	<1
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	<1
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	<1
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.41
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	<1
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	<1
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	<1
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	<1
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	<1
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	<1
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	<1
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	<1
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	<1
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	<1
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	<1
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	<1
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	<1
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	<1
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	<1
	16/12/2024	4.4	0.007	<0.0002	29	0.009	0.006	170	0.003	4.5	<0.0001	0.009	1.3	0.035	<1
	14/01/2025	1.2	<0.001	<0.0002	53	<0.001	0.001	5.8	<0.001	5.8	<0.0001	0.014	0.8	0.039	<1
	11/02/2025	<0.05	<0.001	<0.0002	200	<0.001	<0.001	0.14	<0.001	18	<0.0001	0.004	<0.5	0.033	<1
	24/03/2025	1.1	<0.001	<0.0002	52	<0.001	0.002	6.6	<0.001	8.5	<0.0001	0.012	2.3	0.10	<1
	31/03/2025	0.50	0.003	<0.0002	50	<0.001	0.001	17	<0.001	7.6	<0.0001	0.007	2.4	0.047	<1
	8/04/2025	0.36	0.004	<0.0002	70	<0.001	<0.001	38	<0.001	9.8	<0.0001	0.006	2.3	0.014	<1
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
	16/12/2024	7.4	31000	26	9.3	44000	0.02	0.14	1400	<0.02	0.4	<0.5	2000	<5	<10	1.43
	14/01/2025	7.1	19000	9.4	6.2	30000	0.04	0.04	12000	<0.02	0.3	5500	500	<5	<10	0.04
	11/02/2025	7.5	24000	9.1	8.5	35000	0.03	0.06	6300	<0.02	<0.2	6900	260	<5	<10	0.04
	24/03/2024	6.3	1600	<5	7	2500	<0.1	0.12	790	<0.02	4.4	440	140	<5	<10	0.18
	31/03/2025	7.0	210	8	9.2	260	0.08	<10	72	<0.02	2.3	41	9.5	<5	<10	0.13
	8/04/2025	6.3	610	8.3	6.7	760	0.08	0.44	230	<0.2	<1	140	29	<10	<10	0.13
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	<1
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	<1
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	<1
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	<1
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	<1
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	<1
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	<1
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	<1
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	<1
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	<1
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	<1
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	<1
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	<1
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	<1
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	<1
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	<1
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	<1
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	<1
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	<1
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	<1
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	<1
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	<1
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	<1
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	<1
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	<1
	16/12/2024	<0.05	<0.001	<0.0002	<0.5	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.24	0.002	<0.0002	230	0.002	<0.001	0.64	<0.001	660	<0.0001	<0.001	210	0.006	<1
	11/02/2025	0.12	0.002	<0.0002	290	0.001	<0.001	0.5	<0.001	820	<0.0001	<0.001	260	0.047	<1
	24/03/2024	0.54	<0.001	<0.0002	22	<0.001	0.001	3.2	<0.001	53	<0.0001	0.002	17	0.32	<1
	31/03/2025	0.58	<0.001	<0.0002	4.2	<0.001	<0.001	3.7	<0.001	5.2	<0.0001	0.002	3.5	0.062	<1
	8/04/2025	0.77	<0.001	<0.0002	9.9	0.001	<0.001	4.2	<0.001	18	<0.0001	0.002	6.0	0.011	<1
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS (mg/L)	TSS (mg/L)	DO (mg/L)	EC (µδ/cm)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 as S (mg/L)	Chlorophyll a (µg/L)	Acidity (as CaCO3) mg/L	Sulphate : Chloride Ratio :
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
	16/12/2024	7.7	33000	13	9.5	47000	0.01	0.18	16000	<0.02	<0.2	<0.5	2,100	<5	<10	0.13
	14/01/2025	7.2	25000	11	6.3	38000	0.03	0.06	15000	<0.02	0.7	7200	600	<5	<10	0.04
	11/02/2025	7.6	24000	11	7.2	34000	0.003	0.06	6100	<0.02	<0.2	7200	240	5.9	<10	0.04
	24/03/2025	6.5	1700	<5	6.8	2500	<0.1	0.12	820	<0.02	4.2	450	110	<5	<10	0.13
	31/03/2025	6.7	250	11	9.5	250	0.08	<10	68	<0.02	<1	42	9.7	<5	<10	0.14
	8/04/2025	6.4	610	7.6	9.4	740	0.08	0.28	260	<0.2	<1	140	31	<10	<10	0.12
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	<1
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	<1
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	<1
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	<1
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	<1
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	<1
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	<1
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	<1
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	<1
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	<1
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	<1
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	<1
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	<1
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	<1
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	<1
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	<1
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	<1
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	<1
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	<1
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	<1
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	<1
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	<1
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	<1
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	<1
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	<1
	16/12/2024	4.4	0.007	<0.0002	29	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.15	0.002	<0.0002	300	0.002	<0.001	0.3	<0.001	860	<0.0001	<0.001	270	<0.005	<1
	11/02/2025	0.09	0.002	<0.0002	300	0.001	<0.001	0.38	<0.001	850	<0.0001	<0.001	270	0.048	<1
	24/03/2025	0.55	<0.001	<0.0002	22	<0.001	<0.001	3.4	<0.001	54	<0.0001	0.002	17	0.027	<1
	31/03/2025	0.59	0.001	<0.0002	4.2	<0.001	<0.001	3.3	<0.001	5.3	<0.0001	0.002	3.5	0.044	<1
	8/04/2025	0.80	<0.001	<0.0002	9.9	0.003	<0.001	4.1	<0.001	18	<0.0001	0.002	6.0	0.007	<1
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	**-**	**0.0033**	**0.0018**	**0.3**	**0.0034**	**-**	**0.0006**	**0.011**	**-**	**0.008**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

APPENDIX 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	8/04/2025

Description

Union drain adjacent to Melaleuca Drive.



Photo No.	Date
2	8/04/2025

Description

Surface water monitoring location SW04.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	8/04/2025

Description

Surface water monitoring location SW03.



Photo No.	Date
4	8/04/2025

Description

Surface water monitoring location SW01.



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 9th May 2025

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

22/05/2025

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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E: admin@envsolutions.com.au

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_May_2025

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	22/05/2025	
Reviewed By:	Kingsley Baldwin	22/05/2025	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored, or transmitted in any form without the prior consent of ENV.

ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Appendix 1.

An assessment of the monthly analytical results presented in Appendix 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	All parameters were within baseline ranges with the exception of TDS, Ca and Al.	No site related impacts identified at this monitoring location. Na has returned within baseline ranges and Ca is marginally outside of baseline values. There are no baselines values for Al.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges.	No site related impacts identified at this location.
MW5	pH, EC, TDS, SO_4, Al and cations/anions (Cl, Ca, Mg) concentrations outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. Water quality at MW5 remains poor, despite multiple parameters have improved since the previous monitoring rounds and long-term trends indicate overall improvements in water quality.
MW7	All parameters were within baseline ranges with the exception of TDS, SO_4 and Al.	No site related impacts identified at this location.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Appendix 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Appendix 3. Select photos of the surface water sampling programme are presented in Appendix 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Appendix 3, identified the following observations:

Site	Observation	Comments
SW01	All parameters were within baseline ranges with the exception of pH.	This site is located at an upstream location receiving water from off-site.
SW02	pH, TSS, EC, SO_4 and cations/anions (Ca and Mg) were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site.
SW03	pH, TDS, EC, SO_4, several cations/anions (Na and K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works and SW02. There is no observable impact derived from the site.

Site	Observation	Comments
SW04	pH, EC, TDS, SO_4, and several cations/anions (Ca, Fe, Mg and Ni) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. Water flow at SW04 has been noted to be stagnant with restrictions within the drain causing water to back up restrictions in the section of the drain adjacent to Melaleuca Drive. Overall, analytes have shown improvement when compared to the previous monitoring round.
SW05	All parameters were within baseline ranges	No site related impacts identified.
SW06	Al and Fe were recorded outside ANZG default guideline values (95% for slightly disturbed river systems).	Water quality at SW06 remains similar to that observed upstream at SW05. As such, no definitive degradation in water quality is observed between the two locations. No site related impacts observed.

3 RAINFALL

During this monitoring period (8/04/2025 – 9/05/2025), 130.8 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), despite water quality parameters gradually improving, water quality remains poor at this location.

Water quality reported at SW03 has maintained better overall quality than upstream (SW02) water quality, inferring no discernible site related impacts.

The groundwater monitoring network continues to present indicators of localised impact from acid sulfate soils adjacent to MW5.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site:

- Continue routine monthly ag-lime dusting of the drainage network with particular focus on the southern swale to buffer pH and metal attenuation.

APPENDIX 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

ENV Solutions
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

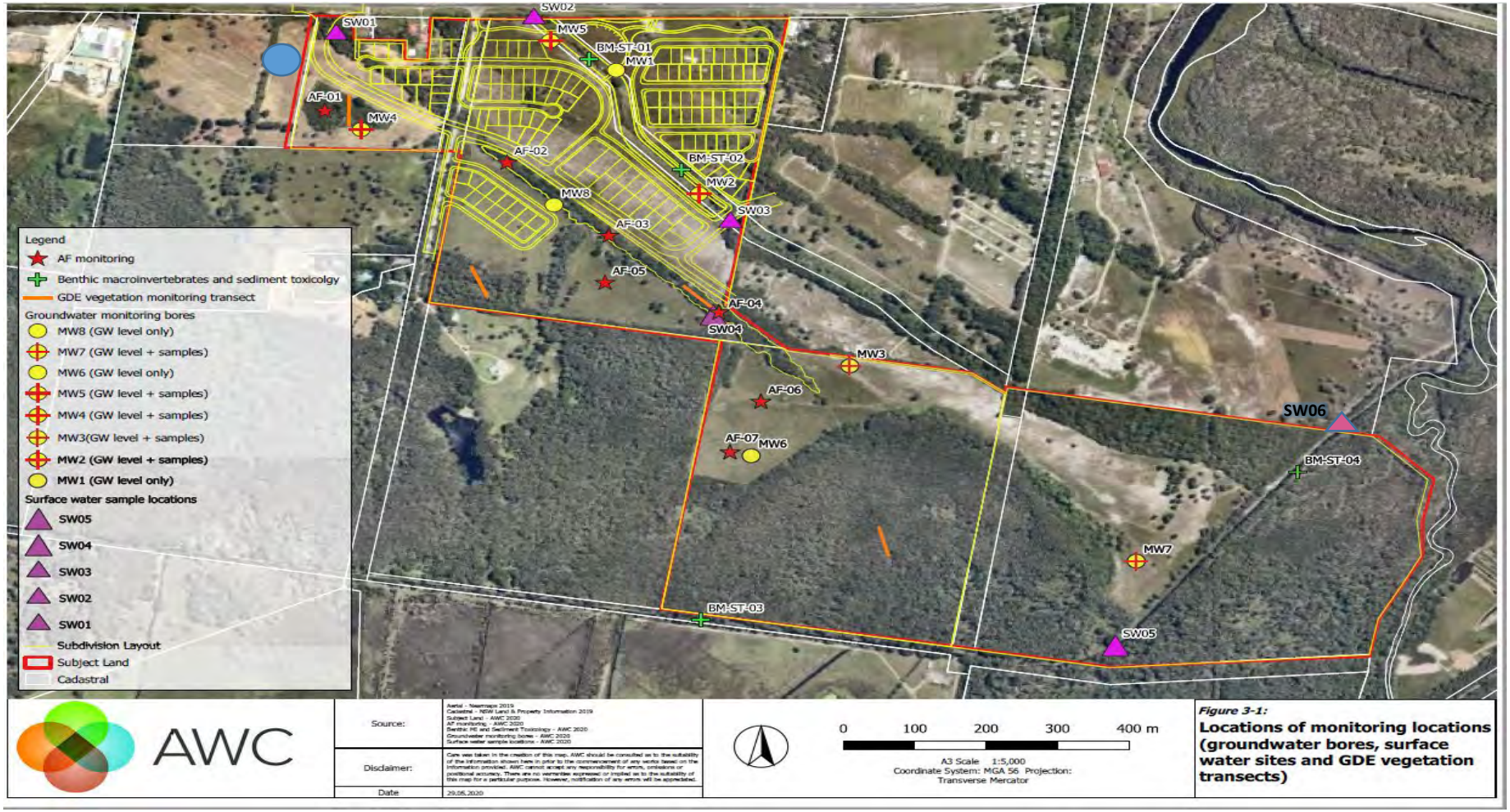


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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APPENDIX 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/22	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.1
	20/10/22	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.1
	14/11/22	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.1
	14/12/22	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.3
	18/01/23	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.4
	20/02/23	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.1
	28/03/23	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.5
	18/04/23	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.3
	18/05/23	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.2
	25/06/23	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.4
	24/07/23	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.0
	21/08/23	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.2
	18/09/23	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.1
	18/10/23	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.2
	20/11/23	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.3
	19/12/23	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.1
	20/01/24	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.1
	26/02/24	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.9
	26/03/24	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.4
	18/04/24	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/24	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.2
	25/06/24	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.0
	10/07/24	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.1
	06/08/24	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.2
	11/09/24	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.0
	09/10/24	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.1
	06/11/24	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.1
	16/12/24	6.0	120	60	8.0	0.05	<0.1	16	<0.2	0.9	30	5.3	0.14	0.8	2.8	3.5	0.14	0.3
	14/01/25	6.4	150	94	610.0	0.03	<0.05	15	<0.1	<0.25	31	<2	<0.5	0.6	2.4	2.7	1	0.1
	11/02/25	5.7	170	150	<5	0.04	<0.1	13	<0.02	<0.5	29	2.8	<0.5	0.6	2.4	2.8	<1	0.2
	24/03/25	5.7	120	190	<5	<0.05	0.05	36	0.02	4.2	28	5.8	<0.5	0.7	2.4	2.7	<1	0.2
	08/04/25	5.7	120	220	<5	0.02	0.03	16	0.03	<2	31	4.2	<0.5	0.7	2.6	3.5	<1	0.3
	09/05/25	6.0	150	210	<5	0.01	<0.1	17	<0.2	1.1	29	7	1.3	0.7	2.6	3.2	0.4	0.4
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW3	29/09/22	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.1
	20/10/22	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.1
	14/11/22	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.1
	14/12/22	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.2
	18/01/23	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.0
	20/02/23	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.1
	28/03/23	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.3
	18/04/23	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.4
	18/05/23	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.4
	15/06/23	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.5
	24/07/23	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.3
	21/08/23	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.5
	18/09/23	Dry – no sample collected																
	18/10/23	Dry – no sample collected																
	20/11/23	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.6
	19/12/23	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.4
	20/01/24	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.2
	26/02/24	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.5
	26/03/24	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.2
	18/04/24	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.3
	20/05/24	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.1
	25/06/24	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.1
	10/07/24	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.6
	06/08/24	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.2
	11/09/24	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.2
	09/10/24	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.2
	06/11/24	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.2
	16/12/24	4.3	35	24	63	0.02	<0.01	4.4	<0.02	0.5	3.8	2.2	<0.5	0.7	<0.5	0.75	<1	0.5
	14/01/25	4.5	40	20	38	0.03	0.01	3.3	<0.02	0.5	2.8	<2	<0.5	<0.5	<0.5	0.75	<1	0.3
	11/02/25	4.2	64	36	8.2	<0.01	<0.01	2.9	<0.02	<0.2	3.1	4.4	<0.5	<0.5	<0.5	1.1	<1	1.5
	24/03/25	4	79	50	150	0.02	<0.01	13	<0.02	0.9	5.8	3.9	0.8	1.1	<0.5	0.52	1.5	0.3
	08/04/25	4.2	71	38	160	<0.01	0.02	11	<0.02	0.9	7.3	4.1	0.9	1.4	2.6	0.58	1.5	0.4
	09/05/25	4.5	73	74	210	<0.01	0.02	9.9	<0.02	0.8	7	3.1	0.7	0.9	<0.5	0.74	0.95	0.3
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0***	**<1***	**<0.5***
MW4	09/29/22	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.0
	10/20/22	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.1
	11/14/22	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.2
	12/14/22	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.3
	01/18/23	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.3
	02/20/23	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.4
	03/28/23	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.2
	04/18/23	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.8
	05/18/23	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.7
	06/15/23	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.4
	07/24/23	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.7
	08/21/23	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.2
	09/18/23	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.5
	10/18/23	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.4
	11/20/23	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.3
	12/19/23	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.3
	01/20/24	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.1
	02/26/24	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.4
	26/03/24	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.3
	18/04/24	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.4
	20/05/24	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.4
	25/06/24	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.2
	10/07/24	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.5
	06/08/24	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.2
	11/09/24	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.1
	09/10/24	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.2
	06/11/24	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.1
	16/12/24	5.7	80	70	<5	0.02	<0.1	18	<0.2	1	11	4.1	8.1	3	<0.5	0.99	7.2	0.2
	14/01/25	4.1	180	120	86	0.02	1.3	26	<0.02	1.2	14	2.4	4.4	3.8	<0.5	1.6	<1	0.1
	11/02/25	4.1	170	150	<5	0.01	<0.1	25	<0.02	<0.5	16	3.1	2.5	4.8	<0.5	1.8	<1	0.1
	24/03/25	5	110	84	39	<0.05	0.04	22	0.02	5	13	7.6	4.9	3.4	<0.5	0.85	5.76	0.3
	08/04/25	5.2	90	130	22	<0.01	0.03	16	<0.02	1	10	3.7	6.9	2.7	<0.5	0.58	11.9	0.2
	09/05/25	6	110	140	45	-	-	14	<0.2	-	8.7	2.7	11	2	<0.5	0.8	13.75	0.2
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW5	09/29/22	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.1
	10/20/22	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.1
	11/14/22	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.0
	12/14/22	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.3
	01/18/23	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.2
	02/20/23	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.8
	03/28/23	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.3
	04/18/23	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.4
	05/18/23	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.7
	06/15/23	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.0
	07/24/23	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.3
	08/21/23	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.8
	09/18/23	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.3
	10/18/23	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.2
	11/20/23	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.0
	12/19/23	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.8
	01/20/24	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.2
	02/26/24	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.0
	26/03/24	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.6
	18/04/24	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.3
	20/05/24	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.7
	25/06/24	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.4
	10/07/24	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.7
	06/08/24	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.1
	11/09/24	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.8
	09/10/24	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.2
	06/11/24	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.5
	16/12/24	3.2	1,800	1,100	53	0.02	21	32	<0.2	2.8	25	980	180	21	2.4	35	5.1	30.6
	14/01/25	3.7	1,600	1,400	190	<0.01	1.3	19	<0.02	2.1	16	320	210	16	1.8	25	8.4	16.8
	11/02/25	3.5	2,000	1,700	69	0.01	2.6	160	<0.02	14	110	860	110	50	2.8	56	1.96	5.4
	24/03/25	3.6	1,000	890	38	<0.05	0.06	20	<0.02	3.3	14	570	140	8.5	1.7	17	8.24	28.5
	08/04/25	3.7	790	700	73	<0.01	0.85	36	<0.02	5.2	42	390	86	16.0	<0.5	13	6.6	10.8
	09/05/25	3.7	1,300	1,200	200	<0.01	1.2	87	<0.2	3.3	24	470	87	11.0	1.5	9.6	9.06	5.4
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	09/29/22	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.1
	10/20/22	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.1
	11/14/22	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.1
	12/14/22	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.3
	01/18/23	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.1
	02/20/23	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.6
	03/28/23	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.1
	04/18/23	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.9
	05/18/23	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.8
	06/15/23	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.6
	07/24/23	5.1	140	100	90	0.12	<0.1	10	<0.2	1.	8.5	14	1.9	1.4	0.9			1.4
	08/21/23	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.4
	09/18/23	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.6
	10/18/23	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.5
	11/20/23	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.3
	12/19/23	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.3
	01/20/24	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.6
	02/26/24	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.2
	26/03/24	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.8
	18/04/24	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	<1	42.7
	20/05/24	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.6
	25/06/24	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0.0
	10/07/24	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.5
	06/08/24	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	4.0
	11/09/24	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.5
	09/10/24	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.5
	06/11/24	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.4
	16/12/24	4.3	58	68	29	0.04	<0.1	12	<0.2	1.3	8.5	42	1.6	1.3	<0.5	1.9	<1	3.5
	14/01/25	4.7	63	36	120	0.04	0.02	8.6	0.03	1.3	6.8	7.0	1.7	1.2	0.5	2.4	1.4	0.8
	11/02/25	4.6	68	70	13	0.07	<0.1	9.2	<0.02	1.2	8.4	2	1.5	1.5	0.8	2.7	<1	0.2
	24/03/25	4.1	0	56	28	<0.05	0.02	15	<0.02	1.8	7.7	43	2.3	1.4	<0.5	1.2	1.91	2.9
	08/04/25	4.4	76	70	14	<0.01	0.03	14	<0.02	<1	8.1	31	2.8	1.1	2.1	1.4	2	2.2
	09/05/25	4.7	81	110	24	<0.01	0.03	13	<0.2	1.2	8.1	28	1.5	0.9	<0.5	1.6	0.9	2.2
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0***	**<1***	**<0.5***

APPENDIX 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS (mg/L)	TSS (mg/L)	DO (mg/L)	EC (µδ/cm)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 as S (mg/L)	Chlorophyll a (µg/L)	Acidity (as CaCO3) mg/L	Sulphate : Chloride Ratio :
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
	16/12/2024	6.9	90	190	3.3	140	0.36	<0.01	8.2	<0.02	0.02	11	5.4	170	<10	0.7
	14/01/2025	6.7	48	7.2	3.5	89	0.14	<0.1	4.8	<0.02	0.6	5.4	<5	<0.005	<10	0.0
	11/02/2025	7.5	390	<5	8.3	620	0.06	0.03	110	<0.02	0.8	16	16	12	<10	0.1
	24/03/2025	6.9	58	<5	8.6	64	0.32	0.02	6.1	<0.02	0.8	7.9	2.4	48	<10	0.4
	31/03/2025	7.1	170	5.8	9.2	200	0.14	<0.01	14	<0.02	1.1	15	6.4	<5	<10	0.5
	8/04/2025	7.2	200	9.4	8.8	230	0.37	0.04	14	<0.02	0.4	18	3.6	<5	<10	0.3
	9/05/2025	7.5	170	<5	-	200	0.2	0.03	10	<0.02	0.8	13	4.5	<5	<10	0.5
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	<1
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	<1
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	<1
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	<1
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	<1
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	<1
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	<1
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	<1
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	<1
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	<1
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	<1
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	<1
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	<1
	26/02/2024	<0.005	<0.001	<0.0002	14.00	<0.001	<0.001	0.93	<0.001	4.60	<0.0001	<0.001	1.70	0.05	<1
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	<1
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	<1
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	<1
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	<1
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	<1
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	<1
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	<1
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	<1
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	<1
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	<1
	16/12/2024	2.4	0.004	<0.0002	22	0.006	0.019	38	0.006	4.5	<0.0001	0.004	2.8	0.092	<1
	14/01/2025	0.15	<0.001	<0.0002	8.8	0.001	0.003	0.34	<0.001	1.8	<0.0001	0.001	0.6	0.018	<1
	11/02/2025	0.58	0.002	<0.0002	13.00	<0.001	<0.001	6.10	<0.001	3.50	<0.0001	0.002	1.00	0.015	<1
	24/03/2025	0.13	<0.001	<0.0002	5.20	<0.001	0.002	0.35	<0.001	1.40	<0.0001	<0.001	1.20	0.037	<1
	31/03/2025	0.10	0.002	<0.0002	22	<0.001	0.003	1.2	<0.001	6.8	<0.0001	0.002	2.4	0.066	<1
	8/04/2025	<0.05	0.002	<0.0002	29	<0.001	<0.001	2.2	<0.001	8.1	<0.0001	0.002	2.4	0.008	<1
	9/05/2025	0.27	<0.001	<0.0002	20	<0.001	0.002	1.6	<0.001	5.9	<0.0001	0.002	1.7	0.030	<1
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
	16/12/2024	6.4	200	110	8.8	310	1.1	<0.01	55	<0.02	0.4	11	19	6.6	<10	0.35
	14/01/2025	6.9	170	<5	4.6	340	0.08	<0.01	51	<0.02	0.9	44	7.7	<0.005	<10	0.15
	11/02/2025	7.1	96	5.6	6.1	150	0.08	<0.01	14	<0.02	1.9	91	3.9	190	<10	0.28
	24/03/2024	3.2	420	7.2	8.6	670	<0.05	0.02	17	<0.02	2.8	17	250	<5	<10	14.71
	31/03/2025	7.2	160	<5	9.8	200	0.14	0.05	14	<0.02	<0.4	16	7	<5	<10	0.50
	8/04/2025	7.2	150	12	6.2	230	0.37	0.03	14	<0.02	0.7	18	3.4	<5	<10	0.24
	9/05/2025	3.9	320	1100	-	560	1.5	0.23	31	<0.02	2.8	18	150	<20	34	4.84
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	<1
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	<1
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	<1
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	<1
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	<1
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	<1
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	<1
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	<1
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	<1
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	<1
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	<1
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	<1
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	<1
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	<1
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	<1
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	<1
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	<1
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	<1
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	<1
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	<1
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	<1
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	<1
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	<1
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	<1
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	<1
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	<1
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	<1
	16/12/2024	0.05	<0.001	<0.0002	14	<0.001	0.001	0.24	<0.001	3.1	<0.0001	<0.001	9.4	0.008	<1
	14/01/2025	0.06	<0.001	<0.0002	14	0.001	0.002	0.28	<0.001	2.7	<0.0001	0.001	9.4	0.015	<1
	11/02/2025	0.82	<0.001	<0.0002	24	<0.001	0.002	4.4	<0.001	4.8	<0.0001	0.005	19	0.058	<1
	24/03/2024	7.4	<0.001	<0.0002	56	0.002	0.001	22	<0.001	6.9	<0.0001	0.021	1.8	0.097	<1
	31/03/2025	0.25	0.002	<0.0002	23	<0.001	0.003	1.7	<0.001	7.0	<0.0001	0.002	2.5	0.054	<1
	8/04/2025	0.10	0.001	<0.0002	29	<0.001	0.001	2.7	<0.001	8.3	<0.0001	0.002	2.3	0.015	<1
	9/05/2025	2.3	0.007	<0.0002	34	0.005	0.002	140	<0.001	9.1	<0.0001	0.011	2.1	0.077	<1
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
	16/12/2024	7.2	250	5.3	19.0	370	<0.01	<0.01	70	<0.02	0.7	61	31	50	<10	0.4
	14/01/2025	6.9	220	<5	7.7	420	0.04	<0.01	66	<0.02	1.3	57	11	<5	<10	0.2
	11/02/2025	7.4	340	<5	7.5	570	0.07	0.02	99	<0.02	1.4	87	14	<5	<10	0.1
	24/03/2024	6.9	130	<5	8.1	230	0.05	<0.01	38	<0.02	0.9	32	66	<5	<10	1.7
	31/03/2025	7.0	260	9.3	9.8	440	0.06	0.19	100	<0.02	0.9	70	26	<5	<10	0.3
	8/04/2025	7.2	290	<5	8.9	470	0.04	0.07	100	<0.02	0.4	82	36	<5	<10	0.4
	9/05/2025	7.1	290	<5	-	460	<0.01	<0.1	100	<0.02	0.7	73	36	<5	<10	0.4
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	<1
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	<1
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	<1
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	<1
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	<1
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	<1
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	<1
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	<1
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	<1
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	<1
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	<1
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	<1
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	<1
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	<1
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	<1
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	<1
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	<1
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	<1
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	<1
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	<1
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	<1
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	<1
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	<1
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	<1
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	<1
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	<1
	6/11/2024	3	0.00	<0.0002	23	0.002	0.002	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	<1
	16/12/2024	0.29	0.001	<0.0002	19	0.001	<0.001	1.6	<0.001	4.0	<0.0001	0.001	12	0.009	<1
	14/01/2025	0.17	0.001	<0.0002	17	<0.001	0.001	0.74	<0.001	3.3	<0.0001	0.001	12	0.016	<1
	11/02/2025	0.45	0.001	<0.0002	23	<0.001	<0.001	2.1	<0.001	4.5	<0.0001	0.001	18	0.031	<1
	24/03/2024	0.18	0.001	<0.0002	10	<0.001	0.002	0.8	<0.001	2.6	<0.0001	0.001	6.6	0.036	<1
	31/03/2025	0.42	0.002	<0.0002	21	<0.001	0.001	3.5	<0.001	4.9	<0.0001	0.002	11	0.045	<1
	8/04/2025	0.30	<0.001	<0.0002	21	<0.001	<0.001	1.3	<0.001	5.4	<0.0001	0.002	11	0.012	<1
	9/05/2025	0.62	0.002	<0.0002	20	<0.001	0.001	2.0	<0.001	4.9	<0.0001	0.005	11	0.042	<1
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.7
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.5
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.3
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.5
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.7
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.8
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.1
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.8
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.0
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.7
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.8
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.7
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.5
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.8
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.9
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.2
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.5
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.8
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.0
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.0
	16/12/2024	5.7	210	420	0.2	360	0.10	0.25	13	<0.02	13	12	110	7	25	8.5
	14/01/2025	4.1	310	120	4.9	460	0.13	0.03	6.3	<0.02	1.3	11	64	<5	<10	10.2
	11/02/2025	7.6	700	<5	8.8	1000	0.01	0.03	5.8	<0.02	1.3	21	150	7.7	<10	25.9
	24/03/2025	3.9	390	21	7.4	470	0.03	0.03	18	<0.02	1.5	24	180	8.1	<10	10.0
	31/03/2025	6.3	260	70	10	370	<0.01	0.10	11	<0.02	0.8	16	160	<5	<10	14.5
	8/04/2025	6.0	430	43	4.1	470	0.09	0.27	11	0.04	2.3	18	240	<10	16	21.8
	9/05/2025	6.5	270	260	-	570	<0.01	0.02	10	<0.02	4.5	16	250	160	<!0	25.0
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	<1
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	<1
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	<1
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	<1
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	<1
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	<1
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	<1
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.41
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	<1
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	<1
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	<1
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	<1
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	<1
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	<1
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	<1
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	<1
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	<1
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	<1
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	<1
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	<1
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	<1
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	<1
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	<1
	16/12/2024	4.4	0.007	<0.0002	29	0.009	0.006	170	0.003	4.5	<0.0001	0.009	1.3	0.035	<1
	14/01/2025	1.2	<0.001	<0.0002	53	<0.001	0.001	5.8	<0.001	5.8	<0.0001	0.014	0.8	0.039	<1
	11/02/2025	<0.05	<0.001	<0.0002	200	<0.001	<0.001	0.14	<0.001	18	<0.0001	0.004	<0.5	0.033	<1
	24/03/2025	1.1	<0.001	<0.0002	52	<0.001	0.002	6.6	<0.001	8.5	<0.0001	0.012	2.3	0.10	<1
	31/03/2025	0.50	0.003	<0.0002	50	<0.001	0.001	17	<0.001	7.6	<0.0001	0.007	2.4	0.047	<1
	8/04/2025	0.36	0.004	<0.0002	70	<0.001	<0.001	38	<0.001	9.8	<0.0001	0.006	2.3	0.014	<1
	9/05/2025	0.64	<0.001	<0.0002	61	<0.001	0.001	34	<0.001	7.9	<0.0001	0.001	1.9	0.032	<1
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
	16/12/2024	7.4	31000	26	9.3	44000	0.02	0.14	1400	<0.02	0.4	<0.5	2000	<5	<10	1.43
	14/01/2025	7.1	19000	9.4	6.2	30000	0.04	0.04	12000	<0.02	0.3	5500	500	<5	<10	0.04
	11/02/2025	7.5	24000	9.1	8.5	35000	0.03	0.06	6300	<0.02	<0.2	6900	260	<5	<10	0.04
	24/03/2024	6.3	1600	<5	7	2500	<0.1	0.12	790	<0.02	4.4	440	140	<5	<10	0.18
	31/03/2025	7.0	210	8	9.2	260	0.08	<10	72	<0.02	2.3	41	9.5	<5	<10	0.13
	8/04/2025	6.3	610	8.3	6.7	760	0.08	0.44	230	<0.2	<1	140	29	<10	<10	0.13
	9/05/2025	6.8	340	<5	-	480	0.08	<0.1	120	<0.2	1.7	71	40	<5	<10	0.33
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	<1
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	<1
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	<1
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	<1
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	<1
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	<1
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	<1
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	<1
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	<1
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	<1
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	<1
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	<1
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	<1
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	<1
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	<1
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	<1
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	<1
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	<1
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	<1
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	<1
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	<1
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	<1
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	<1
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	<1
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	<1
	16/12/2024	<0.05	<0.001	<0.0002	<0.5	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.24	0.002	<0.0002	230	0.002	<0.001	0.64	<0.001	660	<0.0001	<0.001	210	0.006	<1
	11/02/2025	0.12	0.002	<0.0002	290	0.001	<0.001	0.5	<0.001	820	<0.0001	<0.001	260	0.047	<1
	24/03/2024	0.54	<0.001	<0.0002	22	<0.001	0.001	3.2	<0.001	53	<0.0001	0.002	17	0.32	<1
	31/03/2025	0.58	<0.001	<0.0002	4.2	<0.001	<0.001	3.7	<0.001	5.2	<0.0001	0.002	3.5	0.062	<1
	8/04/2025	0.77	<0.001	<0.0002	9.9	0.001	<0.001	4.2	<0.001	18	<0.0001	0.002	6.0	0.011	<1
	9/05/2025	0.75	<0.001	<0.0002	6.3	0.001	<0.001	3.2	<0.001	8.5	<0.0001	0.002	3.7	0.015	<1
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
	16/12/2024	7.7	33000	13	9.5	47000	0.01	0.18	16000	<0.02	<0.2	<0.5	2,100	<5	<10	0.13
	14/01/2025	7.2	25000	11	6.3	38000	0.03	0.06	15000	<0.02	0.7	7200	600	<5	<10	0.04
	11/02/2025	7.6	24000	11	7.2	34000	0.003	0.06	6100	<0.02	<0.2	7200	240	5.9	<10	0.04
	24/03/2025	6.5	1700	<5	6.8	2500	<0.1	0.12	820	<0.02	4.2	450	110	<5	<10	0.13
	31/03/2025	6.7	250	11	9.5	250	0.08	<10	68	<0.02	<1	42	9.7	<5	<10	0.14
	8/04/2025	6.4	610	7.6	9.4	740	0.08	0.28	260	<0.2	<1	140	31	<10	<10	0.12
	9/05/2025	6.6	260	<5	-	490	0.07	<0.1	120	<0.2	<1	70	28	<5	<!0	0.23
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	<1
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	<1
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	<1
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	<1
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	<1
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	<1
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	<1
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	<1
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	<1
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	<1
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	<1
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	<1
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	<1
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	<1
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	<1
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	<1
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	<1
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	<1
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	<1
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	<1
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	<1
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	<1
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	<1
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	<1
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	<1
	16/12/2024	4.4	0.007	<0.0002	29	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.15	0.002	<0.0002	300	0.002	<0.001	0.3	<0.001	860	<0.0001	<0.001	270	<0.005	<1
	11/02/2025	0.09	0.002	<0.0002	300	0.001	<0.001	0.38	<0.001	850	<0.0001	<0.001	270	0.048	<1
	24/03/2025	0.55	<0.001	<0.0002	22	<0.001	<0.001	3.4	<0.001	54	<0.0001	0.002	17	0.027	<1
	31/03/2025	0.59	0.001	<0.0002	4.2	<0.001	<0.001	3.3	<0.001	5.3	<0.0001	0.002	3.5	0.044	<1
	8/04/2025	0.80	<0.001	<0.0002	9.9	0.003	<0.001	4.1	<0.001	18	<0.0001	0.002	6.0	0.007	<1
	9/05/2025	0.74	<0.001	<0.0002	6.3	0.001	0.001	2.8	<0.001	8.5	<0.0001	0.002	3.7	0.010	<1
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	**-**	**0.0033**	**0.0018**	**0.3**	**0.0034**	**-**	**0.0006**	**0.011**	**-**	**0.008**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

APPENDIX 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	9/05/2025

Description

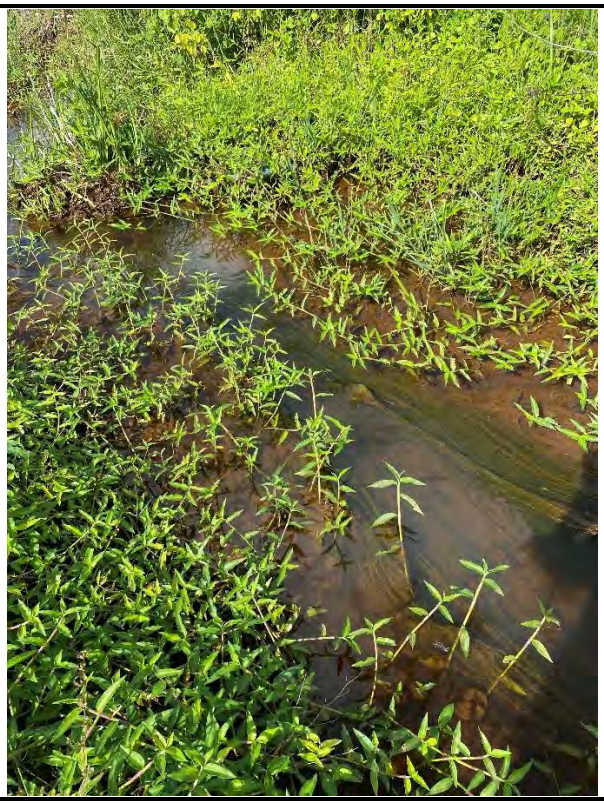
Surface water monitoring location SW05.



Photo No.	Date
2	9/05/2025

Description

Surface water monitoring location SW02.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	9/05/2025

Description

Surface water monitoring location SW03.



Photo No.	Date
4	9/05/2025

Description

Surface water monitoring location SW01.



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 25th June 2025

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

9/07/2025

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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E: admin@envsolutions.com.au

www.envsolutions.com.au

DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_June_2025

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	07/07/2025	
Reviewed By:	Kingsley Baldwin	09/07/2025	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored, or transmitted in any form without the prior consent of ENV.

ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Appendix 1.

An assessment of the monthly analytical results presented in Appendix 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	EC, TDS, SO_4 Na and Al concentrations were outside baseline ranges.	Elevated concentrations will need to be reviewed in the next monitoring round to identify any trends. There are no baselines values for Al.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges.	No site related impacts identified at this location.
MW5	pH, EC, TDS, SO_4, Al and cations/anions (Ca, Mg) concentrations were outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. Water quality at MW5 remains poor, despite multiple parameters (EC and Cl) have improved since the previous monitoring round.
MW7	All parameters were within baseline ranges with the exception of SO_4 and Al.	No site related impacts identified at this location.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Appendix 1 and the coordinates (GDA94) of all locations tabulated and presented in

Table 1. Tabulated analytical results are presented in Appendix 3. Select photos of the surface water sampling programme are presented in Appendix 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Appendix 3, identified the following observations:

Site	Observation	Comments
SW01	All parameters were within baseline ranges.	This site is located at an upstream location receiving water from off-site.
SW02	pH, TDS, EC, SO_4 and cations/anions (Ca, Na, Mg and K) were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site.
SW03	TDS, EC, Total Phosphorus, SO_4, several cations/anions (Na, Mg and K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works and SW02. Water quality observed at SW03 is notably better than upstream location SW02. As such, there is no observable impact derived from the site.

Site	Observation	Comments
SW04	pH, EC, TDS, Total Phosphorus SO_4, and several cations/anions (Ca, Fe and Mg) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. Overall, analytes have shown improvement when compared to the previous monitoring round.
SW05	All parameters were within baseline ranges with the exception of Cl and SO_4	No site related impacts identified.
SW06	pH, EC, TP, TN, Al and Fe were recorded outside ANZG default guideline values (95% for slightly disturbed river systems).	Water quality at SW06 remains similar to that observed upstream at SW05. As such, no definitive degradation in water quality is observed between the two locations. No site related impacts observed.

3 RAINFALL

During this monitoring period (9/05/2025 – 25/06/2025), 981.7 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils continue to influence on-site surface water downstream of the Stage 1 works package at SW04 (Southern Swale Drain), despite water quality parameters gradually improving, water quality remains poor at this location.

Water quality reported at SW03 has maintained better overall quality than upstream (SW02) water quality, inferring no discernible site related impacts.

The groundwater monitoring network continues to present indicators of localised impact from acid sulfate soils adjacent to MW5.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site:

- Ag-liming will be required if pH falls below baseline values in the next monitoring round. At present, no further application of ag-lime is required.

APPENDIX 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

ENV Solutions
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

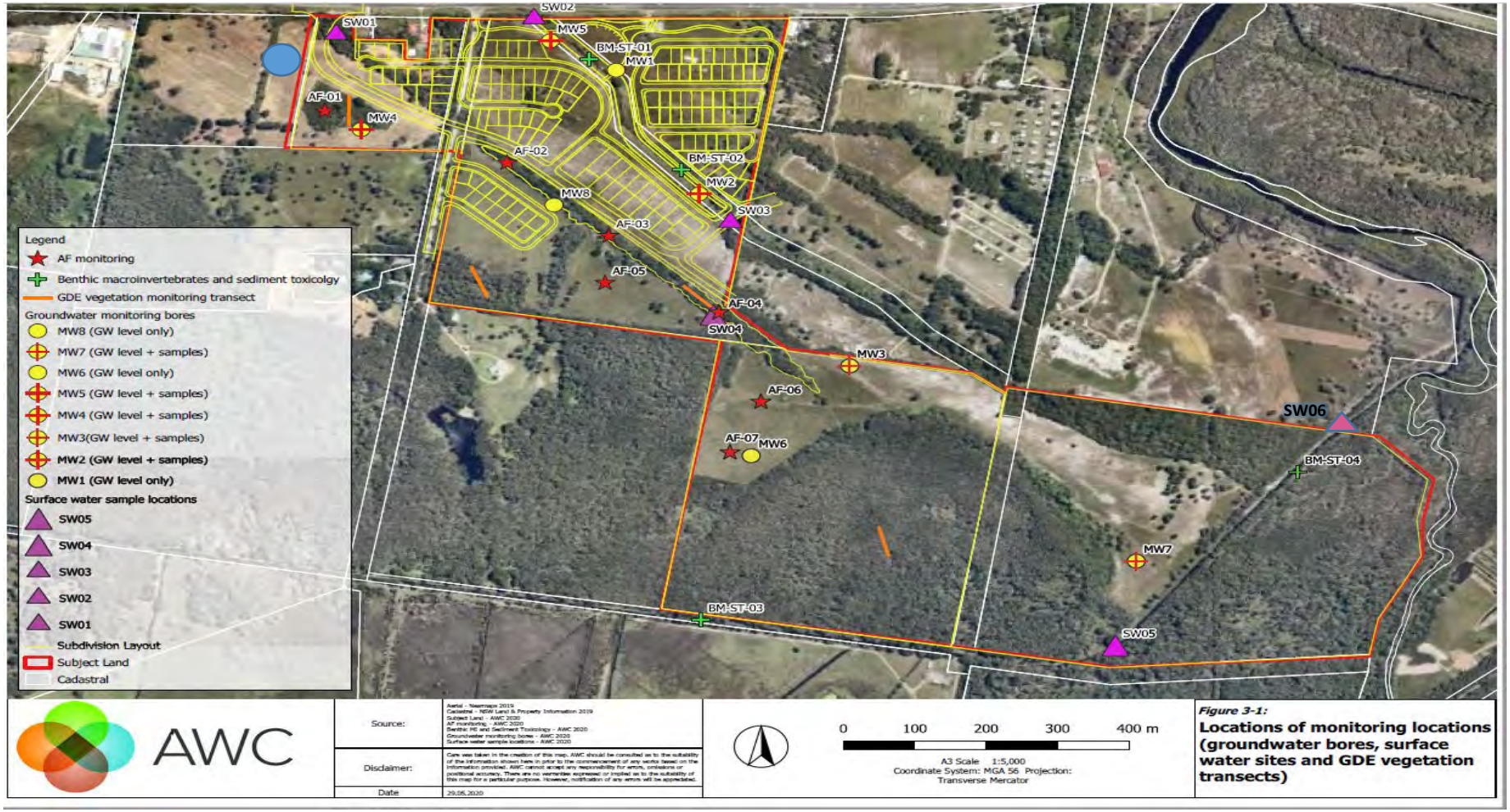


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

ENV Solutions
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

APPENDIX 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/22	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.1
	20/10/22	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.1
	14/11/22	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.1
	14/12/22	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.3
	18/01/23	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.4
	20/02/23	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.1
	28/03/23	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.5
	18/04/23	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.3
	18/05/23	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.2
	25/06/23	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.4
	24/07/23	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.0
	21/08/23	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.2
	18/09/23	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.1
	18/10/23	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.2
	20/11/23	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.3
	19/12/23	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.1
	20/01/24	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.1
	26/02/24	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.9
	26/03/24	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.4
	18/04/24	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/24	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.2
	25/06/24	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.0
	10/07/24	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.1
	06/08/24	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.2
	11/09/24	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.0
	09/10/24	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.1
	06/11/24	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.1
	16/12/24	6.0	120	60	8.0	0.05	<0.1	16	<0.2	0.9	30	5.3	0.14	0.8	2.8	3.5	<1	0.3
	14/01/25	6.4	150	94	610.0	0.03	<0.05	15	<0.1	<0.25	31	<2	<0.5	0.6	2.4	2.7	1	0.1
	11/02/25	5.7	170	150	<5	0.04	<0.1	13	<0.02	<0.5	29	2.8	<0.5	0.6	2.4	2.8	<1	0.2
	24/03/25	5.7	120	190	<5	<0.05	0.05	36	0.02	4.2	28	5.8	<0.5	0.7	2.4	2.7	<1	0.2
	08/04/25	5.7	120	220	<5	0.02	0.03	16	0.03	<2	31	4.2	<0.5	0.7	2.6	3.5	<1	0.3
	09/05/25	6.0	150	210	<5	0.01	<0.1	17	<0.2	1.1	29	7	1.3	0.7	2.6	3.2	<1	0.4
	25/06/25	5.6	180	200	<5	0.06	<0.01	15	<0.02	0.8	33	22	<0.5	0.7	2.6	1.7	<1	1.5
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW3	29/09/22	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.1
	20/10/22	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.1
	14/11/22	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.1
	14/12/22	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.2
	18/01/23	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.0
	20/02/23	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.1
	28/03/23	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.3
	18/04/23	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.4
	18/05/23	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.4
	15/06/23	4	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.5
	24/07/23	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.3
	21/08/23	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.5
	18/09/23	Dry – no sample collected																
	18/10/23	Dry – no sample collected																
	20/11/23	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.6
	19/12/23	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.4
	20/01/24	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.2
	26/02/24	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.5
	26/03/24	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.2
	18/04/24	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.3
	20/05/24	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.1
	25/06/24	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.1
	10/07/24	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.6
	06/08/24	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.2
	11/09/24	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.2
	09/10/24	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.2
	06/11/24	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.2
	16/12/24	4.3	35	24	63	0.02	<0.01	4.4	<0.02	0.5	3.8	2.2	<0.5	0.7	<0.5	0.75	<1	0.5
	14/01/25	4.5	40	20	38	0.03	0.01	3.3	<0.02	0.5	2.8	<2	<0.5	<0.5	<0.5	0.75	<1	0.3
	11/02/25	4.2	64	36	8.2	<0.01	<0.01	2.9	<0.02	<0.2	3.1	4.4	<0.5	<0.5	<0.5	1.1	<1	1.5
	24/03/25	4	79	50	150	0.02	<0.01	13	<0.02	0.9	5.8	3.9	0.8	1.1	<0.5	0.52	1.5	0.3
	08/04/25	4.2	71	38	160	<0.01	0.02	11	<0.02	0.9	7.3	4.1	0.9	1.4	2.6	0.58	1.5	0.4
	09/05/25	4.5	73	74	210	<0.01	0.02	9.9	<0.02	0.8	7	3.1	0.7	0.9	<0.5	0.74	<1	0.3
	25/06/25	4.5	42	44	170	0.05	<0.01	4.4	<0.02	1.9	5	4.3	<0.5	<0.5	<0.5	1.0	<1	1.0
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0***	**<1***	**<0.5***
MW4	09/29/22	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.0
	10/20/22	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.1
	11/14/22	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.2
	12/14/22	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.3
	01/18/23	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.3
	02/20/23	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.4
	03/28/23	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.2
	04/18/23	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.8
	05/18/23	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.7
	06/15/23	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.4
	07/24/23	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.7
	08/21/23	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.2
	09/18/23	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.5
	10/18/23	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.4
	11/20/23	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.3
	12/19/23	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.3
	01/20/24	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.1
	02/26/24	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.4
	26/03/24	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.3
	18/04/24	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.4
	20/05/24	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.4
	25/06/24	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.2
	10/07/24	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.5
	06/08/24	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.2
	11/09/24	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.1
	09/10/24	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.2
	06/11/24	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.1
	16/12/24	5.7	80	70	<5	0.02	<0.1	18	<0.2	1	11	4.1	8.1	3	<0.5	0.99	7.2	0.2
	14/01/25	4.1	180	120	86	0.02	1.3	26	<0.02	1.2	14	2.4	4.4	3.8	<0.5	1.6	<1	0.1
	11/02/25	4.1	170	150	<5	0.01	<0.1	25	<0.02	<0.5	16	3.1	2.5	4.8	<0.5	1.8	<1	0.1
	24/03/25	5	110	84	39	<0.05	0.04	22	0.02	5	13	7.6	4.9	3.4	<0.5	0.85	5.76	0.3
	08/04/25	5.2	90	130	22	<0.01	0.03	16	<0.02	1	10	3.7	6.9	2.7	<0.5	0.58	11.9	0.2
	09/05/25	6	110	140	45	-	-	14	<0.2	-	8.7	2.7	11	2	<0.5	0.8	13.75	0.2
	25/06/25	5.4	98	140	130	0.06	0.01	12	0.2	1.6	8.8	8.2	8.6	1.6	<0.5	0.98	8.8	0.7
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW5	09/29/22	4.5	59.00	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.1
	10/20/22	4.4	75.00	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.1
	11/14/22	4.6	120.00	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.0
	12/14/22	4.5	150.00	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.3
	01/18/23	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.2
	02/20/23	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.8
	03/28/23	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.3
	04/18/23	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.4
	05/18/23	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.7
	06/15/23	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.0
	07/24/23	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.3
	08/21/23	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.8
	09/18/23	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.3
	10/18/23	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.2
	11/20/23	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.0
	12/19/23	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.8
	01/20/24	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.2
	02/26/24	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.0
	26/03/24	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.6
	18/04/24	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.3
	20/05/24	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.7
	25/06/24	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.4
	10/07/24	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.7
	06/08/24	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.1
	11/09/24	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.8
	09/10/24	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.2
	06/11/24	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.5
	16/12/24	3.2	1,800	1,100	53	0.02	21	32	<0.2	2.8	25	980	180	21	2.4	35	5.1	30.6
	14/01/25	3.7	1,600	1,400	190	<0.01	1.3	19	<0.02	2.1	16	320	210	16	1.8	25	8.4	16.8
	11/02/25	3.5	2,000	1,700	69	0.01	2.6	160	<0.02	14	110	860	110	50	2.8	56	1.96	5.4
	24/03/25	3.6	1,000	890	38	<0.05	0.06	20	<0.02	3.3	14	570	140	8.5	1.7	17	8.24	28.5
	08/04/25	3.7	790	700	73	<0.01	0.85	36	<0.02	5.2	42	390	86	16.0	<0.5	13	6.6	10.8
	09/05/25	3.7	1,300	1,200	200	<0.01	1.2	87	<0.2	3.3	24	470	87	11.0	1.5	9.6	9.06	5.4
	25/06/25	3.7	1,300	840	140	0.21	1.5	26	<0.02	2	18	580	140	17.0	1.7	17	8.3	22.3
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

ENV
ENVIRONMENTAL | ASBESTOS | REMEDIATION | RESOURCE RECOVERY

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	09/29/22	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.1
	10/20/22	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.1
	11/14/22	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.1
	12/14/22	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.3
	01/18/23	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.1
	02/20/23	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.6
	03/28/23	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.1
	04/18/23	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.9
	05/18/23	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.8
	06/15/23	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.6
	07/24/23	5.1	140	100	90	0.12	<0.1	10	<0.2	1.	8.5	14	1.9	1.4	0.9			1.4
	08/21/23	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.4
	09/18/23	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.6
	10/18/23	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.5
	11/20/23	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.3
	12/19/23	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.3
	01/20/24	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.6
	02/26/24	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.2
	26/03/24	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.8
	18/04/24	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	<1	42.7
	20/05/24	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.6
	25/06/24	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0.0
	10/07/24	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.5
	06/08/24	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	4.0
	11/09/24	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.5
	09/10/24	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.5
	06/11/24	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.4
	16/12/24	4.3	58	68	29	0.04	<0.1	12	<0.2	1.3	8.5	42	1.6	1.3	<0.5	1.9	<1	3.5
	14/01/25	4.7	63	36	120	0.04	0.02	8.6	0.03	1.3	6.8	7.0	1.7	1.2	0.5	2.4	1.4	0.8
	11/02/25	4.6	68	70	13	0.07	<0.1	9.2	<0.02	1.2	8.4	2	1.5	1.5	0.8	2.7	<1	0.2
	24/03/25	4.1	0	56	28	<0.05	0.02	15	<0.02	1.8	7.7	43	2.3	1.4	<0.5	1.2	1.91	2.9
	08/04/25	4.4	76	70	14	<0.01	0.03	14	<0.02	<1	8.1	31	2.8	1.1	2.1	1.4	2	2.2
	09/05/25	4.7	81	110	24	<0.01	0.03	13	<0.2	1.2	8.1	28	1.5	0.9	<0.5	1.6	0.9	2.2
	25/06/25	4.6	65	70	39	0.07	<0.01	8.3	<0.02	<0.2	6.7	56	1.2	0.8	<0.5	1.2	1	6.7
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0***	**<1***	**<0.5***

APPENDIX 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
	16/12/2024	6.9	90	190	3.3	140	0.36	<0.01	8.2	<0.02	0.02	11	5.4	170	<10	0.7
	14/01/2025	6.7	48	7.2	3.5	89	0.14	<0.1	4.8	<0.02	0.6	5.4	<5	<0.005	<10	0.0
	11/02/2025	7.5	390	<5	8.3	620	0.06	0.03	110	<0.02	0.8	16	16	12	<10	0.1
	24/03/2025	6.9	58	<5	8.6	64	0.32	0.02	6.1	<0.02	0.8	7.9	2.4	48	<10	0.4
	31/03/2025	7.1	170	5.8	9.2	200	0.14	<0.01	14	<0.02	1.1	15	6.4	<5	<10	0.5
	8/04/2025	7.2	200	9.4	8.8	230	0.37	0.04	14	<0.02	0.4	18	3.6	<5	<10	0.3
	9/05/2025	7.5	170	<5	-	200	0.2	0.03	10	<0.02	0.8	13	4.5	<5	<10	0.5
	25/06/2025	6.9	130	24	7.5	190	1.1	0.07	6.2	<0.02	1.1	12	7.1	12	22	1.1
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	<1
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	<1
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	<1
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	<1
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	<1
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	<1
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	<1
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	<1
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	<1
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	<1
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	<1
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	<1
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	<1
	26/02/2024	<0.005	<0.001	<0.0002	14.00	<0.001	<0.001	0.93	<0.001	4.60	<0.0001	<0.001	1.70	0.05	<1
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	<1
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	<1
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	<1
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	<1
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	<1
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	<1
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	<1
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	<1
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	<1
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	<1
	16/12/2024	2.4	0.004	<0.0002	22	0.006	0.019	38	0.006	4.5	<0.0001	0.004	2.8	0.092	<1
	14/01/2025	0.15	<0.001	<0.0002	8.8	0.001	0.003	0.34	<0.001	1.8	<0.0001	0.001	0.6	0.018	<1
	11/02/2025	0.58	0.002	<0.0002	13.00	<0.001	<0.001	6.10	<0.001	3.50	<0.0001	0.002	1.00	0.015	<1
	24/03/2025	0.13	<0.001	<0.0002	5.20	<0.001	0.002	0.35	<0.001	1.40	<0.0001	<0.001	1.20	0.037	<1
	31/03/2025	0.10	0.002	<0.0002	22	<0.001	0.003	1.2	<0.001	6.8	<0.0001	0.002	2.4	0.066	<1
	8/04/2025	<0.05	0.002	<0.0002	29	<0.001	<0.001	2.2	<0.001	8.1	<0.0001	0.002	2.4	0.008	<1
	9/05/2025	0.27	<0.001	<0.0002	20	<0.001	0.002	1.6	<0.001	5.9	<0.0001	0.002	1.7	0.030	<1
	25/06/2025	0.11	<0.001	<0.0002	19	<0.001	0.002	0.72	<0.001	4.4	<0.0001	0.002	<0.5	0.032	<1
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
	16/12/2024	6.4	200	110	8.8	310	1.1	<0.01	55	<0.02	0.4	11	19	6.6	<10	0.35
	14/01/2025	6.9	170	<5	4.6	340	0.08	<0.01	51	<0.02	0.9	44	7.7	<0.005	<10	0.15
	11/02/2025	7.1	96	5.6	6.1	150	0.08	<0.01	14	<0.02	1.9	91	3.9	190	<10	0.28
	24/03/2024	3.2	420	7.2	8.6	670	<0.05	0.02	17	<0.02	2.8	17	250	<5	<10	14.71
	31/03/2025	7.2	160	<5	9.8	200	0.14	0.05	14	<0.02	<0.4	16	7	<5	<10	0.50
	8/04/2025	7.2	150	12	6.2	230	0.37	0.03	14	<0.02	0.7	18	3.4	<5	<10	0.24
	9/05/2025	3.9	320	1100	-	560	1.5	0.23	31	<0.02	2.8	18	150	<20	34	4.84
	25/06/2025	7.1	400	9.4	9.8	580	1.5	0.01	88	<0.03	1.5	74	38	38	14	0.40
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	<1
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	<1
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	<1
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	<1
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	<1
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	<1
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	<1
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	<1
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	<1
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	<1
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	<1
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	<1
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	<1
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	<1
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	<1
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	<1
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	<1
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	<1
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	<1
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	<1
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	<1
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	<1
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	<1
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	<1
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	<1
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	<1
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	<1
	16/12/2024	0.05	<0.001	<0.0002	14	<0.001	0.001	0.24	<0.001	3.1	<0.0001	<0.001	9.4	0.008	<1
	14/01/2025	0.06	<0.001	<0.0002	14	0.001	0.002	0.28	<0.001	2.7	<0.0001	0.001	9.4	0.015	<1
	11/02/2025	0.82	<0.001	<0.0002	24	<0.001	0.002	4.4	<0.001	4.8	<0.0001	0.005	19	0.058	<1
	24/03/2024	7.4	<0.001	<0.0002	56	0.002	0.001	22	<0.001	6.9	<0.0001	0.021	1.8	0.097	<1
	31/03/2025	0.25	0.002	<0.0002	23	<0.001	0.003	1.7	<0.001	7.0	<0.0001	0.002	2.5	0.054	<1
	8/04/2025	0.10	0.001	<0.0002	29	<0.001	0.001	2.7	<0.001	8.3	<0.0001	0.002	2.3	0.015	<1
	9/05/2025	2.3	0.007	<0.0002	34	0.005	0.002	140	<0.001	9.1	<0.0001	0.011	2.1	0.077	<1
	25/06/2025	0.30	<0.001	<0.0002	21	<0.001	0.001	1.1	<0.001	5.4	<0.0001	0.002	14	0.030	<1
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
	16/12/2024	7.2	250	5.3	19.0	370	<0.01	<0.01	70	<0.02	0.7	61	31	50	<10	0.4
	14/01/2025	6.9	220	<5	7.7	420	0.04	<0.01	66	<0.02	1.3	57	11	<5	<10	0.2
	11/02/2025	7.4	340	<5	7.5	570	0.07	0.02	99	<0.02	1.4	87	14	<5	<10	0.1
	24/03/2024	6.9	130	<5	8.1	230	0.05	<0.01	38	<0.02	0.9	32	66	<5	<10	1.7
	31/03/2025	7.0	260	9.3	9.8	440	0.06	0.19	100	<0.02	0.9	70	26	<5	<10	0.3
	8/04/2025	7.2	290	<5	8.9	470	0.04	0.07	100	<0.02	0.4	82	36	<5	<10	0.4
	9/05/2025	7.1	290	<5	-	460	<0.01	<0.1	100	<0.02	0.7	73	36	<5	<10	0.4
	25/06/2025	6.7	360	230	6.5	540	2.3	0.01	88	<0.03	2.3	68	36	46	14	0.4
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	<1
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	<1
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	<1
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	<1
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	<1
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	<1
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	<1
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	<1
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	<1
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	<1
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	<1
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	<1
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	<1
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	<1
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	<1
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	<1
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	<1
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	<1
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	<1
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	<1
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	<1
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	<1
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	<1
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	<1
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	<1
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	<1
	6/11/2024	3	0.00	<0.0002	23	0.002	0.002	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	<1
	16/12/2024	0.29	0.001	<0.0002	19	0.001	<0.001	1.6	<0.001	4.0	<0.0001	0.001	12	0.009	<1
	14/01/2025	0.17	0.001	<0.0002	17	<0.001	0.001	0.74	<0.001	3.3	<0.0001	0.001	12	0.016	<1
	11/02/2025	0.45	0.001	<0.0002	23	<0.001	<0.001	2.1	<0.001	4.5	<0.0001	0.001	18	0.031	<1
	24/03/2024	0.18	0.001	<0.0002	10	<0.001	0.002	0.8	<0.001	2.6	<0.0001	0.001	6.6	0.036	<1
	31/03/2025	0.42	0.002	<0.0002	21	<0.001	0.001	3.5	<0.001	4.9	<0.0001	0.002	11	0.045	<1
	8/04/2025	0.30	<0.001	<0.0002	21	<0.001	<0.001	1.3	<0.001	5.4	<0.0001	0.002	11	0.012	<1
	9/05/2025	0.62	0.002	<0.0002	20	<0.001	0.001	2.0	<0.001	4.9	<0.0001	0.005	11	0.042	<1
	25/06/2025	2.0	0.002	<0.0002	21	<0.001	0.003	6.1	0.001	5.2	<0.0001	0.002	12	0.053	<1
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.7
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.5
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.3
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.5
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.7
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.8
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.1
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.8
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.0
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.7
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.8
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.7
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.5
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.8
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.9
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.2
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.5
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.8
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.0
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.0
	16/12/2024	5.7	210	420	0.2	360	0.10	0.25	13	<0.02	13	12	110	7	25	8.5
	14/01/2025	4.1	310	120	4.9	460	0.13	0.03	6.3	<0.02	1.3	11	64	<5	<10	10.2
	11/02/2025	7.6	700	<5	8.8	1000	0.01	0.03	5.8	<0.02	1.3	21	150	7.7	<10	25.9
	24/03/2025	3.9	390	21	7.4	470	0.03	0.03	18	<0.02	1.5	24	180	8.1	<10	10.0
	31/03/2025	6.3	260	70	10	370	<0.01	0.10	11	<0.02	0.8	16	160	<5	<10	14.5
	8/04/2025	6.0	430	43	4.1	470	0.09	0.27	11	0.04	2.3	18	240	<10	16	21.8
	9/05/2025	6.5	270	260	-	570	<0.01	0.02	10	<0.02	4.5	16	250	160	<!0	25.0
	25/06/2025	6.7	410	67	6.1	590	0.6	0.01	8.3	<0.02	0.6	16	160	6.5	28	19.2
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	<1
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	<1
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	<1
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	<1
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	<1
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	<1
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	<1
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.41
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	<1
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	<1
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	<1
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	<1
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	<1
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	<1
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	<1
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	<1
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	<1
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	<1
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	<1
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	<1
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	<1
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	<1
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	<1
	16/12/2024	4.4	0.007	<0.0002	29	0.009	0.006	170	0.003	4.5	<0.0001	0.009	1.3	0.035	<1
	14/01/2025	1.2	<0.001	<0.0002	53	<0.001	0.001	5.8	<0.001	5.8	<0.0001	0.014	0.8	0.039	<1
	11/02/2025	<0.05	<0.001	<0.0002	200	<0.001	<0.001	0.14	<0.001	18	<0.0001	0.004	<0.5	0.033	<1
	24/03/2025	1.1	<0.001	<0.0002	52	<0.001	0.002	6.6	<0.001	8.5	<0.0001	0.012	2.3	0.10	<1
	31/03/2025	0.50	0.003	<0.0002	50	<0.001	0.001	17	<0.001	7.6	<0.0001	0.007	2.4	0.047	<1
	8/04/2025	0.36	0.004	<0.0002	70	<0.001	<0.001	38	<0.001	9.8	<0.0001	0.006	2.3	0.014	<1
	9/05/2025	0.64	<0.001	<0.0002	61	<0.001	0.001	34	<0.001	7.9	<0.0001	0.001	1.9	0.032	<1
	25/06/2025	0.35	<0.001	<0.0002	85	<0.001	<0.001	7.3	<0.001	8.5	<0.0001	0.004	1.3	0.013	<1
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
	16/12/2024	7.4	31000	26	9.3	44000	0.02	0.14	1400	<0.02	0.4	<0.5	2000	<5	<10	1.43
	14/01/2025	7.1	19000	9.4	6.2	30000	0.04	0.04	12000	<0.02	0.3	5500	500	<5	<10	0.04
	11/02/2025	7.5	24000	9.1	8.5	35000	0.03	0.06	6300	<0.02	<0.2	6900	260	<5	<10	0.04
	24/03/2024	6.3	1600	<5	7	2500	<0.1	0.12	790	<0.02	4.4	440	140	<5	<10	0.18
	31/03/2025	7.0	210	8	9.2	260	0.08	<10	72	<0.02	2.3	41	9.5	<5	<10	0.13
	8/04/2025	6.3	610	8.3	6.7	760	0.08	0.44	230	<0.2	<1	140	29	<10	<10	0.13
	9/05/2025	6.8	340	<5	-	480	0.08	<0.1	120	<0.2	1.7	71	40	<5	<10	0.33
	25/06/2025	6.2	2,000	6.6	5.9	3,500	<0.2	0.07	1,700	<0.2	<0.2	510	250	<5	17	0.14
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	<1
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	<1
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	<1
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	<1
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	<1
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	<1
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	<1
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	<1
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	<1
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	<1
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	<1
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	<1
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	<1
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	<1
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	<1
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	<1
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	<1
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	<1
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	<1
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	<1
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	<1
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	<1
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	<1
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	<1
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	<1
	16/12/2024	<0.05	<0.001	<0.0002	<0.5	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.24	0.002	<0.0002	230	0.002	<0.001	0.64	<0.001	660	<0.0001	<0.001	210	0.006	<1
	11/02/2025	0.12	0.002	<0.0002	290	0.001	<0.001	0.5	<0.001	820	<0.0001	<0.001	260	0.047	<1
	24/03/2024	0.54	<0.001	<0.0002	22	<0.001	0.001	3.2	<0.001	53	<0.0001	0.002	17	0.32	<1
	31/03/2025	0.58	<0.001	<0.0002	4.2	<0.001	<0.001	3.7	<0.001	5.2	<0.0001	0.002	3.5	0.062	<1
	8/04/2025	0.77	<0.001	<0.0002	9.9	0.001	<0.001	4.2	<0.001	18	<0.0001	0.002	6.0	0.011	<1
	9/05/2025	0.75	<0.001	<0.0002	6.3	0.001	<0.001	3.2	<0.001	8.5	<0.0001	0.002	3.7	0.015	<1
	25/06/2025	0.46	<0.001	<0.0002	26	<0.001	<0.001	2.0	<0.001	63	<0.0001	0.001	19	0.010	<1
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
	16/12/2024	7.7	33000	13	9.5	47000	0.01	0.18	16000	<0.02	<0.2	<0.5	2,100	<5	<10	0.13
	14/01/2025	7.2	25000	11	6.3	38000	0.03	0.06	15000	<0.02	0.7	7200	600	<5	<10	0.04
	11/02/2025	7.6	24000	11	7.2	34000	0.003	0.06	6100	<0.02	<0.2	7200	240	5.9	<10	0.04
	24/03/2025	6.5	1700	<5	6.8	2500	<0.1	0.12	820	<0.02	4.2	450	110	<5	<10	0.13
	31/03/2025	6.7	250	11	9.5	250	0.08	<10	68	<0.02	<1	42	9.7	<5	<10	0.14
	8/04/2025	6.4	610	7.6	9.4	740	0.08	0.28	260	<0.2	<1	140	31	<10	<10	0.12
	9/05/2025	6.6	260	<5	-	490	0.07	<0.1	120	<0.2	<1	70	28	<5	<10	0.23
	25/06/2025	6.2	2,000	7.4	5.9	3,600	1.4	0.08	1,700	<0.2	1.4	520	260	<5	20	1.50
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	-	**<50**	-	**<2200**	**<0.05**	-	-	-	**<0.50**	-	-	**5**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	<1
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	<1
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	<1
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	<1
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	<1
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	<1
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	<1
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	<1
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	<1
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	<1
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	<1
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	<1
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	<1
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	<1
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	<1
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	<1
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	<1
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	<1
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	<1
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	<1
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	<1
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	<1
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	<1
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	<1
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	<1
	16/12/2024	4.4	0.007	<0.0002	29	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.15	0.002	<0.0002	300	0.002	<0.001	0.3	<0.001	860	<0.0001	<0.001	270	<0.005	<1
	11/02/2025	0.09	0.002	<0.0002	300	0.001	<0.001	0.38	<0.001	850	<0.0001	<0.001	270	0.048	<1
	24/03/2025	0.55	<0.001	<0.0002	22	<0.001	<0.001	3.4	<0.001	54	<0.0001	0.002	17	0.027	<1
	31/03/2025	0.59	0.001	<0.0002	4.2	<0.001	<0.001	3.3	<0.001	5.3	<0.0001	0.002	3.5	0.044	<1
	8/04/2025	0.80	<0.001	<0.0002	9.9	0.003	<0.001	4.1	<0.001	18	<0.0001	0.002	6.0	0.007	<1
	9/05/2025	0.74	<0.001	<0.0002	6.3	0.001	0.001	2.8	<0.001	8.5	<0.0001	0.002	3.7	0.010	<1
	25/06/2025	0.70	<0.001	<0.0002	26	<0.001	<0.001	2.6	<0.001	64	<0.0001	0.002	20	0.008	<1
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	-	**0.0033**	**0.0018**	**0.3**	**0.0034**	-	**0.0006**	**0.011**	-	**0.008**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

APPENDIX 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	25/06/2025

Description

Surface water monitoring location SW05.



Photo No.	Date
2	25/06/2025

Description

Surface water monitoring location SW03.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	25/06/2025

Description

Surface water monitoring location SW04.



Photo No.	Date
4	25/06/2025

Description

Upstream of SW03.



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 8th July 2025

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

21/07/2025

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_July_2025

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	21/07/2025	
Reviewed By:	Kingsley Baldwin	5/08/2025	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored, or transmitted in any form without the prior consent of ENV.

ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Appendix 1.

An assessment of the monthly analytical results presented in Appendix 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	EC, TDS, SO_4, Na and Al concentrations were outside baseline ranges.	Concentrations remain elevated when compared to the previous monitoring round (EC, TDS, SO_4, Na). There are no baselines values for Al.
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges.	No site related impacts identified at this location.
MW5	pH, EC, TDS, SO_4, Al and cations/anions (Ca, Mg) concentrations were outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. A trend analysis of water quality parameters at MW5 continue to show gradual improvement.
MW7	All parameters were within baseline ranges with the exception of SO_4 and Al.	No site related impacts identified at this location.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Appendix 1 and the coordinates (GDA94) of all locations tabulated and presented in Table 1. Tabulated analytical results are presented in Appendix 3. Select photos of the surface water sampling programme are presented in Appendix 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Appendix 3, identified the following observations:

Site	Observation	Comments
SW01	All parameters were within baseline ranges with the exception of NH3 and Ca.	This site is located at an upstream location receiving water from off-site.
SW02	TDS, EC, NH3, SO_4 and cations/anions (Ca, Na, Mg and K) were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site.
SW03	pH, TDS, EC, SO_4, and Na were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works and SW02. Water quality parameters observed at SW03 are consistent and marginally better than upstream location SW02. As such, there are no discernible site derived impacts.
SW04	pH, TDS, Total Nitrogen, and Zn were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values. Overall, despite pH being low, metals and cations/anions at SW04 have improved notably when compared to the previous monitoring round.

Site	Observation	Comments
SW05	All parameters were within baseline ranges with the exception of Cl and SO_4	No site related impacts identified.
SW06	pH, Al and Fe were recorded outside ANZG default guideline values (95% for slightly disturbed river systems).	Water quality at SW06 remains similar to that observed upstream at SW05. As such, no definitive degradation in water quality is observed between the two locations. No site related impacts observed.

3 RAINFALL

During this monitoring period (25/06/2025 – 8/07/2025), 78.8 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils appeared to have improved significantly at surface water location SW04 (Southern Swale Drain) downstream of the Stage 1 works package.

Water quality reported at SW03 is noted to be of marginally better quality than upstream (SW02) water quality, inferring no discernible site related impacts.

The groundwater monitoring network continues to present indicators of localised impact from acid sulfate soils adjacent to MW5 however trend analysis of water quality parameters show gradual improvements.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site:

- Despite a low pH, overall water quality at SW04 has improved significantly therefore no corrective action (application of ag-lime to drainage lines) is required.

APPENDIX 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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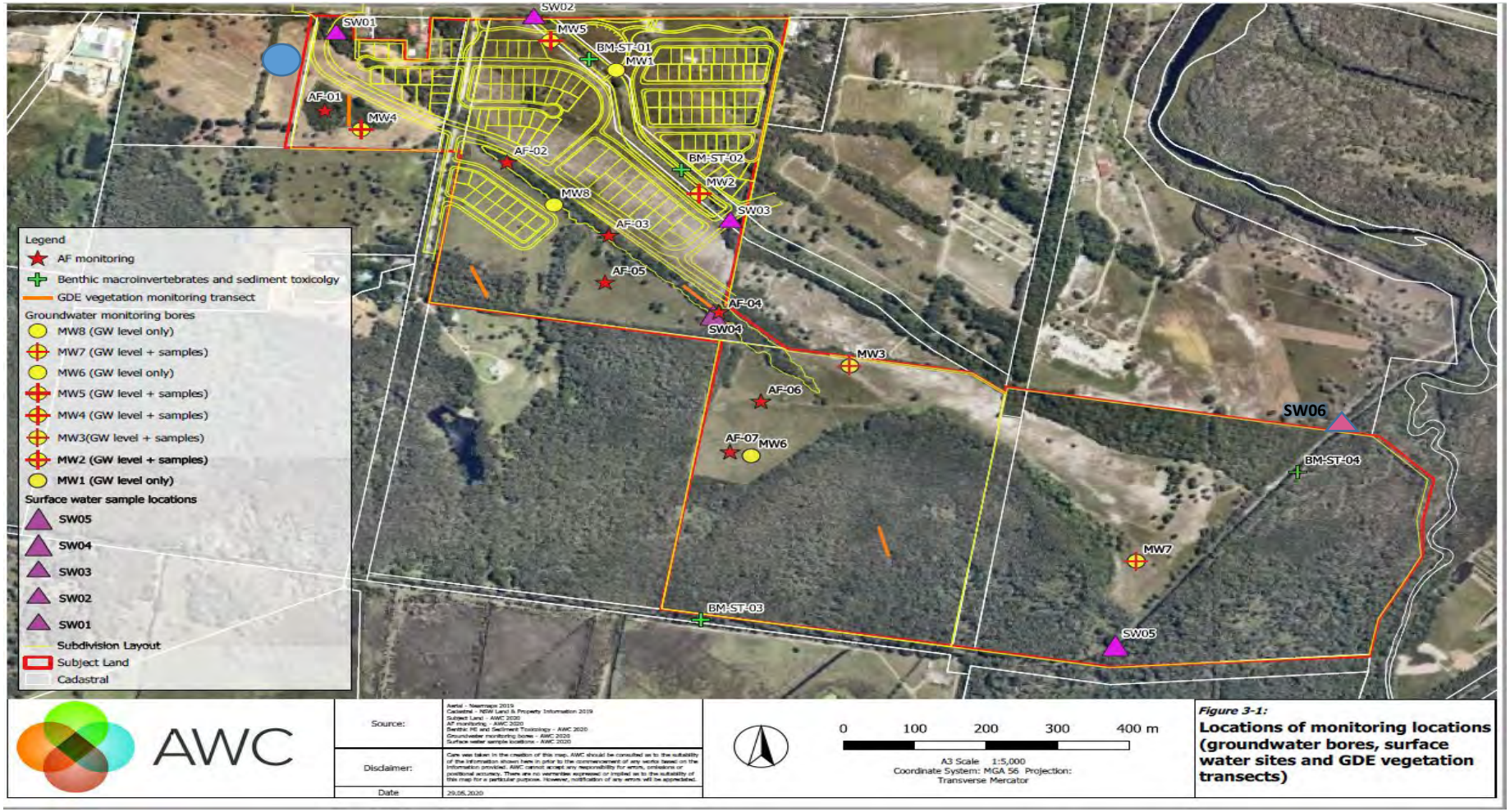


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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APPENDIX 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/22	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.1
	20/10/22	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.1
	14/11/22	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.1
	14/12/22	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.3
	18/01/23	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.4
	20/02/23	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.1
	28/03/23	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.5
	18/04/23	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.3
	18/05/23	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.2
	25/06/23	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.4
	24/07/23	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.0
	21/08/23	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.2
	18/09/23	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.1
	18/10/23	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.2
	20/11/23	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.3
	19/12/23	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.1
	20/01/24	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.1
	26/02/24	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.9
	26/03/24	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.4
	18/04/24	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/24	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.2
	25/06/24	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.0
	10/07/24	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.1
	06/08/24	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.2
	11/09/24	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.0
	09/10/24	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.1
	06/11/24	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.1
	16/12/24	6.0	120	60	8.0	0.05	<0.1	16	<0.2	0.9	30	5.3	0.14	0.8	2.8	3.5	<1	0.3
	14/01/25	6.4	150	94	610.0	0.03	<0.05	15	<0.1	<0.25	31	<2	<0.5	0.6	2.4	2.7	1	0.1
	11/02/25	5.7	170	150	<5	0.04	<0.1	13	<0.02	<0.5	29	2.8	<0.5	0.6	2.4	2.8	<1	0.2
	24/03/25	5.7	120	190	<5	<0.05	0.05	36	0.02	4.2	28	5.8	<0.5	0.7	2.4	2.7	<1	0.2
	08/04/25	5.7	120	220	<5	0.02	0.03	16	0.03	<2	31	4.2	<0.5	0.7	2.6	3.5	<1	0.3
	09/05/25	6.0	150	210	<5	0.01	<0.1	17	<0.2	1.1	29	7	1.3	0.7	2.6	3.2	<1	0.4
	25/06/25	5.6	180	200	<5	0.06	<0.01	15	<0.02	0.8	33	22	<0.5	0.7	2.6	1.7	<1	1.5
	08/07/25	5.5	190	180	<5	0.04	0.13	14	<0.2	1.6	32	24	<0.5	0.8	2.5	1.7	<1	1.7
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

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Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW3	29/09/22	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.1
	20/10/22	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.1
	14/11/22	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.1
	14/12/22	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.2
	18/01/23	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.0
	20/02/23	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.1
	28/03/23	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.3
	18/04/23	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.4
	18/05/23	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.4
	15/06/23	4.0	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.5
	24/07/23	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.3
	21/08/23	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.5
	18/09/23	Dry – no sample collected																
	18/10/23	Dry – no sample collected																
	20/11/23	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.6
	19/12/23	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.4
	20/01/24	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.2
	26/02/24	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.5
	26/03/24	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.2
	18/04/24	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.3
	20/05/24	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.1
	25/06/24	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.1
	10/07/24	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.6
	06/08/24	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.2
	11/09/24	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.2
	09/10/24	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.2
	06/11/24	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.2
	16/12/24	4.3	35	24	63	0.02	<0.01	4.4	<0.02	0.5	3.8	2.2	<0.5	0.7	<0.5	0.75	<1	0.5
	14/01/25	4.5	40	20	38	0.03	0.01	3.3	<0.02	0.5	2.8	<2	<0.5	<0.5	<0.5	0.75	<1	0.3
	11/02/25	4.2	64	36	8.2	<0.01	<0.01	2.9	<0.02	<0.2	3.1	4.4	<0.5	<0.5	<0.5	1.1	<1	1.5
	24/03/25	4.0	79	50	150	0.02	<0.01	13	<0.02	0.9	5.8	3.9	0.8	1.1	<0.5	0.52	1.5	0.3
	08/04/25	4.2	71	38	160	<0.01	0.02	11	<0.02	0.9	7.3	4.1	0.9	1.4	2.6	0.58	1.5	0.4
	09/05/25	4.5	73	74	210	<0.01	0.02	9.9	<0.02	0.8	7	3.1	0.7	0.9	<0.5	0.74	<1	0.3
	25/06/25	4.5	42	44	170	0.05	<0.01	4.4	<0.02	1.9	5	4.3	<0.5	<0.5	<0.5	1.0	<1	1.0
	08/07/25	4.5	47	25	670	0.02	0.03	4.5	0.03	0.6	4.9	2.5	<0.5	<0.5	<0.5	1	<1	0.6
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0***	**<1***	**<0.5***
MW4	09/29/22	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.0
	10/20/22	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.1
	11/14/22	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.2
	12/14/22	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.3
	01/18/23	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.3
	02/20/23	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.4
	03/28/23	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.2
	04/18/23	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.8
	05/18/23	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.7
	06/15/23	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.4
	07/24/23	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.7
	08/21/23	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.2
	09/18/23	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.5
	10/18/23	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.4
	11/20/23	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.3
	12/19/23	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.3
	01/20/24	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.1
	02/26/24	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.4
	26/03/24	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.3
	18/04/24	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.4
	20/05/24	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.4
	25/06/24	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.2
	10/07/24	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.5
	06/08/24	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.2
	11/09/24	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.1
	09/10/24	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.2
	06/11/24	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.1
	16/12/24	5.7	80	70	<5	0.02	<0.1	18	<0.2	1	11	4.1	8.1	3	<0.5	0.99	7.2	0.2
	14/01/25	4.1	180	120	86	0.02	1.3	26	<0.02	1.2	14	2.4	4.4	3.8	<0.5	1.6	<1	0.1
	11/02/25	4.1	170	150	<5	0.01	<0.1	25	<0.02	<0.5	16	3.1	2.5	4.8	<0.5	1.8	<1	0.1
	24/03/25	5.0	110	84	39	<0.05	0.04	22	0.02	5	13	7.6	4.9	3.4	<0.5	0.85	5.76	0.3
	08/04/25	5.2	90	130	22	<0.01	0.03	16	<0.02	1	10	3.7	6.9	2.7	<0.5	0.58	11.9	0.2
	09/05/25	6.0	110	140	45	-	-	14	<0.2	-	8.7	2.7	11	2	<0.5	0.8	13.75	0.2
	25/06/25	5.4	98	140	130	0.06	0.01	12	0.2	1.6	8.8	8.2	8.6	1.6	<0.5	0.98	8.8	0.7
	08/07/25	5.0	110	100	300	0.01	0.23	15	<0.2	<0.5	11	9.4	5.7	2.4	<0.5	1.7	3.35	0.6

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4 Baseline		4.0 - 5.8	890	605	1220	0.43	1.392	199	0.185	4.36	146.3	19.2	11.3	15.6	5.4	<1.0*	<1*	<0.5*

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW5	09/29/22	4.5	59	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.1
	10/20/22	4.4	75	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.1
	11/14/22	4.6	120	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.0
	12/14/22	4.5	150	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.3
	01/18/23	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.2
	02/20/23	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.8
	03/28/23	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.3
	04/18/23	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.4
	05/18/23	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.7
	06/15/23	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.0
	07/24/23	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.3
	08/21/23	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.8
	09/18/23	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.3
	10/18/23	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.2
	11/20/23	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.0
	12/19/23	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.8
	01/20/24	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.2
	02/26/24	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.0
	26/03/24	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.6
	18/04/24	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.3
	20/05/24	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.7
	25/06/24	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.4
	10/07/24	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.7
	06/08/24	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.1
	11/09/24	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.8
	09/10/24	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.2
	06/11/24	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.5
	16/12/24	3.2	1,800	1,100	53	0.02	21	32	<0.2	2.8	25	980	180	21	2.4	35	5.1	30.6
	14/01/25	3.7	1,600	1,400	190	<0.01	1.3	19	<0.02	2.1	16	320	210	16	1.8	25	8.4	16.8
	11/02/25	3.5	2,000	1,700	69	0.01	2.6	160	<0.02	14	110	860	110	50	2.8	56	1.96	5.4
	24/03/25	3.6	1,000	890	38	<0.05	0.06	20	<0.02	3.3	14	570	140	8.5	1.7	17	8.24	28.5
	08/04/25	3.7	790	700	73	<0.01	0.85	36	<0.02	5.2	42	390	86	16.0	<0.5	13	6.6	10.8
	09/05/25	3.7	1,300	1,200	200	<0.01	1.2	87	<0.2	3.3	24	470	87	11.0	1.5	9.6	9.06	5.4
	25/06/25	3.7	1,300	840	140	0.21	1.5	26	<0.02	2	18	580	140	17.0	1.7	17	8.3	22.3
	08/07/25	4.0	720	480	170	<0.010	0.81	21	<0.2	5.4	20	280	58	10.0	0.9	11	5.3	13.3
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	09/29/22	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.1
	10/20/22	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.1
	11/14/22	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.1
	12/14/22	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.3
	01/18/23	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.1
	02/20/23	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.6
	03/28/23	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.1
	04/18/23	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.9
	05/18/23	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.8
	06/15/23	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.6
	07/24/23	5.1	140	100	90	0.12	<0.1	10	<0.2	1	8.5	14	1.9	1.4	0.9			1.4
	08/21/23	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.4
	09/18/23	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.6
	10/18/23	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.5
	11/20/23	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.3
	12/19/23	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.3
	01/20/24	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.6
	02/26/24	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.2
	26/03/24	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.8
	18/04/24	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	<1	42.7
	20/05/24	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.6
	25/06/24	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0.0
	10/07/24	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.5
	06/08/24	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	4.0
	11/09/24	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.5
	09/10/24	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.5
	06/11/24	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.4
	16/12/24	4.3	58	68	29	0.04	<0.1	12	<0.2	1.3	8.5	42	1.6	1.3	<0.5	1.9	<1	3.5
	14/01/25	4.7	63	36	120	0.04	0.02	8.6	0.03	1.3	6.8	7.0	1.7	1.2	0.5	2.4	1.4	0.8
	11/02/25	4.6	68	70	13	0.07	<0.1	9.2	<0.02	1.2	8.4	2	1.5	1.5	0.8	2.7	<1	0.2
	24/03/25	4.1	0	56	28	<0.05	0.02	15	<0.02	1.8	7.7	43	2.3	1.4	<0.5	1.2	1.91	2.9
	08/04/25	4.4	76	70	14	<0.01	0.03	14	<0.02	<1	8.1	31	2.8	1.1	2.1	1.4	2	2.2
	09/05/25	4.7	81	110	24	<0.01	0.03	13	<0.2	1.2	8.1	28	1.5	0.9	<0.5	1.6	<1	2.2
	25/06/25	4.6	65	70	39	0.07	<0.01	8.3	<0.02	<0.2	6.7	56	1.2	0.8	<0.5	1.2	1	6.7
	08/07/25	4.6	65	44	130	0.02	0.14	7.9	<0.02	<0.5	6.3	37	1.4	0.9	<0.5	2.6	<1	4.7
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0***	**<1***	**<0.5***

APPENDIX 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
	16/12/2024	6.9	90	190	3.3	140	0.36	<0.01	8.2	<0.02	0.02	11	5.4	170	<10	0.7
	14/01/2025	6.7	48	7.2	3.5	89	0.14	<0.1	4.8	<0.02	0.6	5.4	<5	<0.005	<10	0.0
	11/02/2025	7.5	390	<5	8.3	620	0.06	0.03	110	<0.02	0.8	16	16	12	<10	0.1
	24/03/2025	6.9	58	<5	8.6	64	0.32	0.02	6.1	<0.02	0.8	7.9	2.4	48	<10	0.4
	31/03/2025	7.1	170	5.8	9.2	200	0.14	<0.01	14	<0.02	1.1	15	6.4	<5	<10	0.5
	8/04/2025	7.2	200	9.4	8.8	230	0.37	0.04	14	<0.02	0.4	18	3.6	<5	<10	0.3
	9/05/2025	7.5	170	<5	-	200	0.2	0.03	10	<0.02	0.8	13	4.5	<5	<10	0.5
	25/06/2025	6.9	130	24	7.5	190	1.1	0.07	6.2	<0.02	1.1	12	7.1	12	22	1.1
	8/07/2025	6.9	150	<5	8	260	0.12	0.18	8	<0.02	0.8	16	5	28	34	1.6
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	<1
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	<1
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	<1
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	<1
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	<1
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	<1
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	<1
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	<1
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	<1
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	<1
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	<1
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	<1
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	<1
	26/02/2024	<0.005	<0.001	<0.0002	14.00	<0.001	<0.001	0.93	<0.001	4.60	<0.0001	<0.001	1.70	0.05	<1
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	<1
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	<1
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	<1
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	<1
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	<1
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	<1
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	<1
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	<1
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	<1
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	<1
	16/12/2024	2.4	0.004	<0.0002	22	0.006	0.019	38	0.006	4.5	<0.0001	0.004	2.8	0.092	<1
	14/01/2025	0.15	<0.001	<0.0002	8.8	0.001	0.003	0.34	<0.001	1.8	<0.0001	0.001	0.6	0.018	<1
	11/02/2025	0.58	0.002	<0.0002	13.00	<0.001	<0.001	6.10	<0.001	3.50	<0.0001	0.002	1.00	0.015	<1
	24/03/2025	0.13	<0.001	<0.0002	5.20	<0.001	0.002	0.35	<0.001	1.40	<0.0001	<0.001	1.20	0.037	<1
	31/03/2025	0.10	0.002	<0.0002	22	<0.001	0.003	1.2	<0.001	6.8	<0.0001	0.002	2.4	0.066	<1
	8/04/2025	<0.05	0.002	<0.0002	29	<0.001	<0.001	2.2	<0.001	8.1	<0.0001	0.002	2.4	0.008	<1
	9/05/2025	0.27	<0.001	<0.0002	20	<0.001	0.002	1.6	<0.001	5.9	<0.0001	0.002	1.7	0.030	<1
	25/06/2025	0.11	<0.001	<0.0002	19	<0.001	0.002	0.72	<0.001	4.4	<0.0001	0.002	<0.5	0.032	<1
	8/07/2025	0.05	<0.001	<0.0002	26	<0.001	0.002	0.49	<0.001	7.2	<0.0001	0.002	<0.5	0.024	<1
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
	16/12/2024	6.4	200	110	8.8	310	1.1	<0.01	55	<0.02	0.4	11	19	6.6	<10	0.35
	14/01/2025	6.9	170	<5	4.6	340	0.08	<0.01	51	<0.02	0.9	44	7.7	<0.005	<10	0.15
	11/02/2025	7.1	96	5.6	6.1	150	0.08	<0.01	14	<0.02	1.9	91	3.9	190	<10	0.28
	24/03/2024	3.2	420	7.2	8.6	670	<0.05	0.02	17	<0.02	2.8	17	250	<5	<10	14.71
	31/03/2025	7.2	160	<5	9.8	200	0.14	0.05	14	<0.02	<0.4	16	7	<5	<10	0.50
	8/04/2025	7.2	150	12	6.2	230	0.37	0.03	14	<0.02	0.7	18	3.4	<5	<10	0.24
	9/05/2025	3.9	320	1100	-	560	1.5	0.23	31	<0.02	2.8	18	150	<20	34	4.84
	25/06/2025	7.1	400	9.4	9.8	580	1.5	0.01	88	<0.03	1.5	74	38	38	14	0.40
	8/07/2025	6.9	300	14	8.4	600	0.34	0.58	96	<0.02	0.9	73	38	19	21	2.53
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	<1
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	<1
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	<1
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	<1
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	<1
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	<1
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	<1
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	<1
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	<1
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	<1
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	<1
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	<1
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	<1
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	<1
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	<1
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	<1
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	<1
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	<1
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	<1
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	<1
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	<1
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	<1
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	<1
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	<1
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	<1
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	<1
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	<1
	16/12/2024	0.05	<0.001	<0.0002	14	<0.001	0.001	0.24	<0.001	3.1	<0.0001	<0.001	9.4	0.008	<1
	14/01/2025	0.06	<0.001	<0.0002	14	0.001	0.002	0.28	<0.001	2.7	<0.0001	0.001	9.4	0.015	<1
	11/02/2025	0.82	<0.001	<0.0002	24	<0.001	0.002	4.4	<0.001	4.8	<0.0001	0.005	19	0.058	<1
	24/03/2024	7.4	<0.001	<0.0002	56	0.002	0.001	22	<0.001	6.9	<0.0001	0.021	1.8	0.097	<1
	31/03/2025	0.25	0.002	<0.0002	23	<0.001	0.003	1.7	<0.001	7.0	<0.0001	0.002	2.5	0.054	<1
	8/04/2025	0.10	0.001	<0.0002	29	<0.001	0.001	2.7	<0.001	8.3	<0.0001	0.002	2.3	0.015	<1
	9/05/2025	2.3	0.007	<0.0002	34	0.005	0.002	140	<0.001	9.1	<0.0001	0.011	2.1	0.077	<1
	25/06/2025	0.30	<0.001	<0.0002	21	<0.001	0.001	1.1	<0.001	5.4	<0.0001	0.002	14	0.030	<1
	8/07/2025	0.15	<0.001	<0.0002	19	<0.001	<0.001	0.65	<0.001	5.3	<0.0001	0.001	12	0.018	<1
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
	16/12/2024	7.2	250	5.3	19.0	370	<0.01	<0.01	70	<0.02	0.7	61	31	50	<10	0.4
	14/01/2025	6.9	220	<5	7.7	420	0.04	<0.01	66	<0.02	1.3	57	11	<5	<10	0.2
	11/02/2025	7.4	340	<5	7.5	570	0.07	0.02	99	<0.02	1.4	87	14	<5	<10	0.1
	24/03/2024	6.9	130	<5	8.1	230	0.05	<0.01	38	<0.02	0.9	32	66	<5	<10	1.7
	31/03/2025	7.0	260	9.3	9.8	440	0.06	0.19	100	<0.02	0.9	70	26	<5	<10	0.3
	8/04/2025	7.2	290	<5	8.9	470	0.04	0.07	100	<0.02	0.4	82	36	<5	<10	0.4
	9/05/2025	7.1	290	<5	-	460	<0.01	<0.1	100	<0.02	0.7	73	36	<5	<10	0.4
	25/06/2025	6.7	360	230	6.5	540	2.3	0.01	88	<0.03	2.3	68	36	46	14	0.4
	8/07/2025	6.8	300	82	9.1	570	0.15	0.48	89	<0.02	1.1	67	39	27	<10	0.4
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	<1
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	<1
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	<1
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	<1
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	<1
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	<1
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	<1
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	<1
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	<1
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	<1
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	<1
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	<1
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	<1
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	<1
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	<1
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	<1
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	<1
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	<1
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	<1
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	<1
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	<1
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	<1
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	<1
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	<1
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	<1
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	<1
	6/11/2024	3	0.00	<0.0002	23	0.002	0.002	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	<1
	16/12/2024	0.29	0.001	<0.0002	19	0.001	<0.001	1.6	<0.001	4.0	<0.0001	0.001	12	0.009	<1
	14/01/2025	0.17	0.001	<0.0002	17	<0.001	0.001	0.74	<0.001	3.3	<0.0001	0.001	12	0.016	<1
	11/02/2025	0.45	0.001	<0.0002	23	<0.001	<0.001	2.1	<0.001	4.5	<0.0001	0.001	18	0.031	<1
	24/03/2024	0.18	0.001	<0.0002	10	<0.001	0.002	0.8	<0.001	2.6	<0.0001	0.001	6.6	0.036	<1
	31/03/2025	0.42	0.002	<0.0002	21	<0.001	0.001	3.5	<0.001	4.9	<0.0001	0.002	11	0.045	<1
	8/04/2025	0.30	<0.001	<0.0002	21	<0.001	<0.001	1.3	<0.001	5.4	<0.0001	0.002	11	0.012	<1
	9/05/2025	0.62	0.002	<0.0002	20	<0.001	0.001	2.0	<0.001	4.9	<0.0001	0.005	11	0.042	<1
	25/06/2025	2.0	0.002	<0.0002	21	<0.001	0.003	6.1	0.001	5.2	<0.0001	0.002	12	0.053	<1
	8/07/2025	0.24	<0.001	<0.0002	19	<0.001	<0.001	0.49	<0.001	5.0	<0.0001	0.001	11	0.015	<1
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.7
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.5
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.3
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.5
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.7
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.8
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.1
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.8
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.0
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.7
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.8
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.7
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.5
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.8
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.9
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.2
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.5
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.8
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.0
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.0
	16/12/2024	5.7	210	420	0.2	360	0.10	0.25	13	<0.02	13	12	110	7	25	8.5
	14/01/2025	4.1	310	120	4.9	460	0.13	0.03	6.3	<0.02	1.3	11	64	<5	<10	10.2
	11/02/2025	7.6	700	<5	8.8	1000	0.01	0.03	5.8	<0.02	1.3	21	150	7.7	<10	25.9
	24/03/2025	3.9	390	21	7.4	470	0.03	0.03	18	<0.02	1.5	24	180	8.1	<10	10.0
	31/03/2025	6.3	260	70	10	370	<0.01	0.10	11	<0.02	0.8	16	160	<5	<10	14.5
	8/04/2025	6.0	430	43	4.1	470	0.09	0.27	11	0.04	2.3	18	240	<10	16	21.8
	9/05/2025	6.5	270	260	-	570	<0.01	0.02	10	<0.02	4.5	16	250	160	<10	25.0
	25/06/2025	6.7	410	67	6.1	590	0.6	0.01	8.3	<0.02	0.6	16	160	6.5	28	19.2
	8/07/2025	4.0	140	180	6.1	160	0.21	<0.01	21	<0.02	6.2	17	<2	7.6	43	21.0
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	<1
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	<1
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	<1
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	<1
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	<1
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	<1
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	<1
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.41
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	<1
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	<1
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	<1
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	<1
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	<1
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	<1
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	<1
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	<1
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	<1
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	<1
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	<1
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	<1
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	<1
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	<1
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	<1
	16/12/2024	4.4	0.007	<0.0002	29	0.009	0.006	170	0.003	4.5	<0.0001	0.009	1.3	0.035	<1
	14/01/2025	1.2	<0.001	<0.0002	53	<0.001	0.001	5.8	<0.001	5.8	<0.0001	0.014	0.8	0.039	<1
	11/02/2025	<0.05	<0.001	<0.0002	200	<0.001	<0.001	0.14	<0.001	18	<0.0001	0.004	<0.5	0.033	<1
	24/03/2025	1.1	<0.001	<0.0002	52	<0.001	0.002	6.6	<0.001	8.5	<0.0001	0.012	2.3	0.10	<1
	31/03/2025	0.50	0.003	<0.0002	50	<0.001	0.001	17	<0.001	7.6	<0.0001	0.007	2.4	0.047	<1
	8/04/2025	0.36	0.004	<0.0002	70	<0.001	<0.001	38	<0.001	9.8	<0.0001	0.006	2.3	0.014	<1
	9/05/2025	0.64	<0.001	<0.0002	61	<0.001	0.001	34	<0.001	7.9	<0.0001	0.001	1.9	0.032	<1
	25/06/2025	0.35	<0.001	<0.0002	85	<0.001	<0.001	7.3	<0.001	8.5	<0.0001	0.004	1.3	0.013	<1
	8/07/2025	0.92	<0.001	<0.0002	0.6	0.004	0.002	1.8	<0.001	1.5	<0.0001	0.001	0.8	0.042	<1
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
	16/12/2024	7.4	31000	26	9.3	44000	0.02	0.14	1400	<0.02	0.4	<0.5	2000	<5	<10	1.43
	14/01/2025	7.1	19000	9.4	6.2	30000	0.04	0.04	12000	<0.02	0.3	5500	500	<5	<10	0.04
	11/02/2025	7.5	24000	9.1	8.5	35000	0.03	0.06	6300	<0.02	<0.2	6900	260	<5	<10	0.04
	24/03/2024	6.3	1600	<5	7	2500	<0.1	0.12	790	<0.02	4.4	440	140	<5	<10	0.18
	31/03/2025	7.0	210	8	9.2	260	0.08	<10	72	<0.02	2.3	41	9.5	<5	<10	0.13
	8/04/2025	6.3	610	8.3	6.7	760	0.08	0.44	230	<0.2	<1	140	29	<10	<10	0.13
	9/05/2025	6.8	340	<5	-	480	0.08	<0.1	120	<0.2	1.7	71	40	<5	<10	0.33
	25/06/2025	6.2	2,000	6.6	5.9	3,500	<0.2	0.07	1,700	<0.2	<0.2	510	250	<5	17	0.14
	8/07/2025	6	470	<5	8	910	0.05	0.03	230	0.07	<0.2	130	41	<5	13	0.18
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	<1
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	<1
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	<1
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	<1
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	<1
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	<1
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	<1
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	<1
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	<1
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	<1
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	<1
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	<1
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	<1
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	<1
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	<1
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	<1
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	<1
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	<1
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	<1
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	<1
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	<1
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	<1
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	<1
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	<1
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	<1
	16/12/2024	<0.05	<0.001	<0.0002	<0.5	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.24	0.002	<0.0002	230	0.002	<0.001	0.64	<0.001	660	<0.0001	<0.001	210	0.006	<1
	11/02/2025	0.12	0.002	<0.0002	290	0.001	<0.001	0.5	<0.001	820	<0.0001	<0.001	260	0.047	<1
	24/03/2024	0.54	<0.001	<0.0002	22	<0.001	0.001	3.2	<0.001	53	<0.0001	0.002	17	0.32	<1
	31/03/2025	0.58	<0.001	<0.0002	4.2	<0.001	<0.001	3.7	<0.001	5.2	<0.0001	0.002	3.5	0.062	<1
	8/04/2025	0.77	<0.001	<0.0002	9.9	0.001	<0.001	4.2	<0.001	18	<0.0001	0.002	6.0	0.011	<1
	9/05/2025	0.75	<0.001	<0.0002	6.3	0.001	<0.001	3.2	<0.001	8.5	<0.0001	0.002	3.7	0.015	<1
	25/06/2025	0.46	<0.001	<0.0002	26	<0.001	<0.001	2.0	<0.001	63	<0.0001	0.001	19	0.010	<1
	8/07/2025	0.68	<0.001	<0.0002	9.1	0.001	<0.001	3.0	<0.001	16	<0.0001	0.002	4.9	0.008	<1
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
	16/12/2024	7.7	33000	13	9.5	47000	0.01	0.18	16000	<0.02	<0.2	<0.5	2,100	<5	<10	0.13
	14/01/2025	7.2	25000	11	6.3	38000	0.03	0.06	15000	<0.02	0.7	7200	600	<5	<10	0.04
	11/02/2025	7.6	24000	11	7.2	34000	0.003	0.06	6100	<0.02	<0.2	7200	240	5.9	<10	0.04
	24/03/2025	6.5	1700	<5	6.8	2500	<0.1	0.12	820	<0.02	4.2	450	110	<5	<10	0.13
	31/03/2025	6.7	250	11	9.5	250	0.08	<10	68	<0.02	<1	42	9.7	<5	<10	0.14
	8/04/2025	6.4	610	7.6	9.4	740	0.08	0.28	260	<0.2	<1	140	31	<10	<10	0.12
	9/05/2025	6.6	260	<5	-	490	0.07	<0.1	120	<0.2	<1	70	28	<5	<10	0.23
	25/06/2025	6.2	2,000	7.4	5.9	3,600	1.4	0.08	1,700	<0.2	1.4	520	260	<5	20	1.50
	8/07/2025	6	470	<5	8.2	910	0.05	0.02	230	<0.02	<0.2	130	28	<5	13	0.12
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	-	**<50**	-	**<2200**	**<0.05**	-	-	-	**<0.50**	-	-	**5**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	<1
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	<1
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	<1
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	<1
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	<1
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	<1
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	<1
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	<1
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	<1
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	<1
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	<1
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	<1
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	<1
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	<1
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	<1
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	<1
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	<1
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	<1
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	<1
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	<1
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	<1
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	<1
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	<1
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	<1
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	<1
	16/12/2024	4.4	0.007	<0.0002	29	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.15	0.002	<0.0002	300	0.002	<0.001	0.3	<0.001	860	<0.0001	<0.001	270	<0.005	<1
	11/02/2025	0.09	0.002	<0.0002	300	0.001	<0.001	0.38	<0.001	850	<0.0001	<0.001	270	0.048	<1
	24/03/2025	0.55	<0.001	<0.0002	22	<0.001	<0.001	3.4	<0.001	54	<0.0001	0.002	17	0.027	<1
	31/03/2025	0.59	0.001	<0.0002	4.2	<0.001	<0.001	3.3	<0.001	5.3	<0.0001	0.002	3.5	0.044	<1
	8/04/2025	0.80	<0.001	<0.0002	9.9	0.003	<0.001	4.1	<0.001	18	<0.0001	0.002	6.0	0.007	<1
	9/05/2025	0.74	<0.001	<0.0002	6.3	0.001	0.001	2.8	<0.001	8.5	<0.0001	0.002	3.7	0.010	<1
	25/06/2025	0.70	<0.001	<0.0002	26	<0.001	<0.001	2.6	<0.001	64	<0.0001	0.002	20	0.008	<1
	8/07/2025	0.55	<0.001	<0.0002	11	0.001	0.001	2.3	<0.001	13	<0.0001	0.002	6.3	0.008	<1
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	-	**0.0033**	**0.0018**	**0.3**	**0.0034**	-	**0.0006**	**0.011**	-	**0.008**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

APPENDIX 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	8/07/2025

Description

Surface water monitoring location SW03.



Photo No.	Date
2	8/07/2025

Description

Surface water monitoring location SW02.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	8/07/2025

Description

Surface water monitoring location SW05.



Photo No.	Date
4	8/07/2025

Description

Surface water monitoring location SW06.



MONTHLY WATER QUALITY MONITORING REPORT

Harvest Estate Urban Development

Monitoring Event: 14th August 2025

Ewingsdale Road, Byron Bay, NSW, 2481

Job Number: 217140

For:

Planit Consulting

By:

ENV Services Pty Ltd

Date:

1/09/2025

ENV Services Pty Ltd

313 River Street, Ballina NSW 2478

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E: admin@envsolutions.com.au

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DOCUMENT CONTROL

Job No:	Job Number: 217140
Client:	Planit Consulting
Filename:	217140_Harvest Estate_WQ_August_2025

	Name:	**Date:**	**Signature:**
Prepared By:	Jemma Attkins	1/09/2025	
Reviewed By:	Kingsley Baldwin	2/09/2025	

Revision:	**Date:**	**Details:**

SCOPE OF ENGAGEMENT AND LIMITATIONS

This report has been prepared by ENV Services at the request of Planit Consulting for the purpose of consolidating and assessing water quality monitoring (surface water and ground water) data to determine impact associated with the development of the Harvest Estate. No other parties may rely on the contents of this report for any purposes except those stated.

This report has been prepared based on the information provided to us and from other information obtained as a result of enquiries made by us. ENV accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored, or transmitted in any form without the prior consent of ENV.

ENV declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately, it is recommended that you consult with ENV before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

1 INTRODUCTION

ENV Services Pty Ltd (ENV) was engaged by Planit Consulting to prepare a Monthly Water Quality Report (MWQR) to meet requirements outlined in the Harvest Estate Development Conditions of Consent (11b - d, 32, 33 & 78) and Section 6.2 and 6.4 of the Planit Construction Environmental Management Plan (CEMP). Monitoring has been undertaken in accordance with the following approved plans.

- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate Groundwater Management Plan.* Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Belongil Creek Plan of Management*. Dated August 2020.
- Australian Wetlands Consulting Pty Ltd (AWC) (2020). *Harvest Estate West Byron Urban Release Area; Acid Frog Management Plan.* Dated August 2020.

Baseline water quality parameters outlined in this report have been derived from mean or range values calculated over a 12-month sampling period undertaken between 25 May 2020 and 17 May 2021. This baseline water quality monitoring was carried out by Australian Wetlands Consulting (AWC) and undertaken in accordance with the Harvest Estate Groundwater Management Plan (AWC 2020) and the Harvest Estate – Belongil Creek Plan of Management (AWC 2020).

Guideline water quality trigger values have been derived from the ANZG (2018) Water Quality Guidelines and ANZECC (2000) guidelines for Fresh and Marine Water Quality. These guidelines define Belongil Creek as a lowland river of South-Eastern Australia, with trigger values chosen to reflect this. In assessing human disturbance, this report recognises Belongil Creek as being slight to moderately disturbed. On this basis, for toxicants in water, 95% species protection default guideline values have been presented for assessed toxicants.

No construction works were being undertaken during this monitoring period, with major civil earthworks associated with Stage 1 of the Project completed in November 2023.

2 MONITORING RESULTS & OBSERVATIONS

2.1 Monthly Groundwater Monitoring

Monthly groundwater monitoring at five (5) groundwater wells (MW2 – MW5 & MW7) was carried out to assess for impact within the underlying aquifer. This monitoring was conducted in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.2 of the Planit Construction Environmental Management Plan (CEMP). Groundwater monitoring locations are presented in Appendix 1.

An assessment of the monthly analytical results presented in Appendix 2, Table 1, identified the following observations:

Site	Observation	Comments
MW2	EC, TDS, SO_4 and Na concentrations were outside baseline ranges.	Concentrations remain elevated when compared to the previous monitoring round (EC, SO_4 and Na).
MW3	All parameters were within baseline ranges.	No site related impacts identified at this monitoring location.
MW4	All parameters were within baseline ranges with the exception of Total Nitrogen.	No site related impacts identified at this location.
MW5	pH, EC, TDS, SO_4, Al and Ca concentrations were outside baseline ranges.	Low pH and elevated analytes (EC, TDS, and cations/anions) at this site indicate the presence of oxidising acid sulfate soils proximal to the monitoring well. A trend analysis of water quality parameters at MW5 continue to show gradual improvement.
MW7	All parameters were within baseline ranges with the exception of SO_4.	No site related impacts identified at this location.

2.2 Monthly Surface Water Monitoring

Monthly surface water sampling (SW01 – SW06) was carried out to assess for impact from site activities on the receiving environment. Monitoring was carried out in accordance with the site's Conditions of Consent, along with monitoring requirements outlined in Chapter 6.4 of the Planit Construction Environmental Management Plan (CEMP), which require the assessment of the following analytes; physiochemical parameters, nutrient, metals, cation/anion and total recoverable hydrocarbon (TRH).

Surface water monitoring locations are presented in Appendix 1 and the coordinates (GDA94) of all locations tabulated and presented in Table 1. Tabulated analytical results are presented in Appendix 3. Select photos of the surface water sampling programme are presented in Appendix 4.

Table 1: Surface Water Monitoring Coordinates

Monitoring Location	Location	Easting	Northing
SW01	Upstream	556852	6831954
SW02	Upstream	557145	6831963
SW03	Downstream	557411	6831604
SW04	Downstream	557397	6831429
SW05	Upstream	557992	6830881
SW06	Downstream	558257	6831214

2.2.1 Assessment of Analytical Results

An assessment of the monthly analytical results presented in Appendix 3, identified the following observations:

Site	Observation	Comments
SW01	All parameters were within baseline ranges with the exception of Ca.	This site is located at an upstream location receiving water from off-site.
SW02	TDS, EC, SO_4 and cations/anions (Ca, Na, Mg and K) were recorded outside of baseline ranges.	This site is located at an upstream location receiving water from off-site.
SW03	pH, TDS, EC, SO_4, and cations/anions (Ca, Na, Mg and K) were recorded outside baseline values.	This site is located within the Northern Main Drain, downstream of Stage 1 works and SW02. Water quality parameters observed at SW03 are consistent and marginally better than upstream location SW02. As such, there are no discernible site derived impacts.
SW04	pH, TDS, EC, SO_4, Total Nitrogen and cations/anions (Ca, Fe, Na, Mg and Zn) were outside baseline ranges.	This site is located downstream of Stage 1 works within the Southern Swale Drain. Water quality remains poor at this location when compared to 'upstream' (SW01) and baseline values.

Site	Observation	Comments
SW05	All parameters were within baseline ranges with the exception of Total Nitrogen.	No site related impacts identified.
SW06	pH, Al, Fe and Zn were recorded outside ANZG default guideline values (95% for slightly disturbed river systems).	Water quality at SW06 remains similar to that observed upstream at SW05. As such, no definitive degradation in water quality is observed between the two locations. No site related impacts observed.

3 RAINFALL

During this monitoring period (8/07/2025 – 14/08/2025), 153.2 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

4 CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Monitoring results indicate that impacts associated with exposure of acid sulfate soils appeared to have improved significantly at surface water location SW04 (Southern Swale Drain) downstream of the Stage 1 works package.

Water quality reported at SW03 is noted to be of marginally better quality than upstream (SW02) water quality, inferring no discernible site related impacts.

The groundwater monitoring network continues to present indicators of localised impact from acid sulfate soils adjacent to MW5 however trend analysis of water quality parameters shows gradual improvements.

4.2 Recommendations

Based on the above conclusions of this monitoring report, the following recommendations are to be implemented with respect to improving water quality throughout the site:

- Given pH across the site is within or above the baseline water quality values, no corrective action is required.

APPENDIX 1

Figures



Legend

Site Location

0 0.5 1km

Figure 1 – Site Location
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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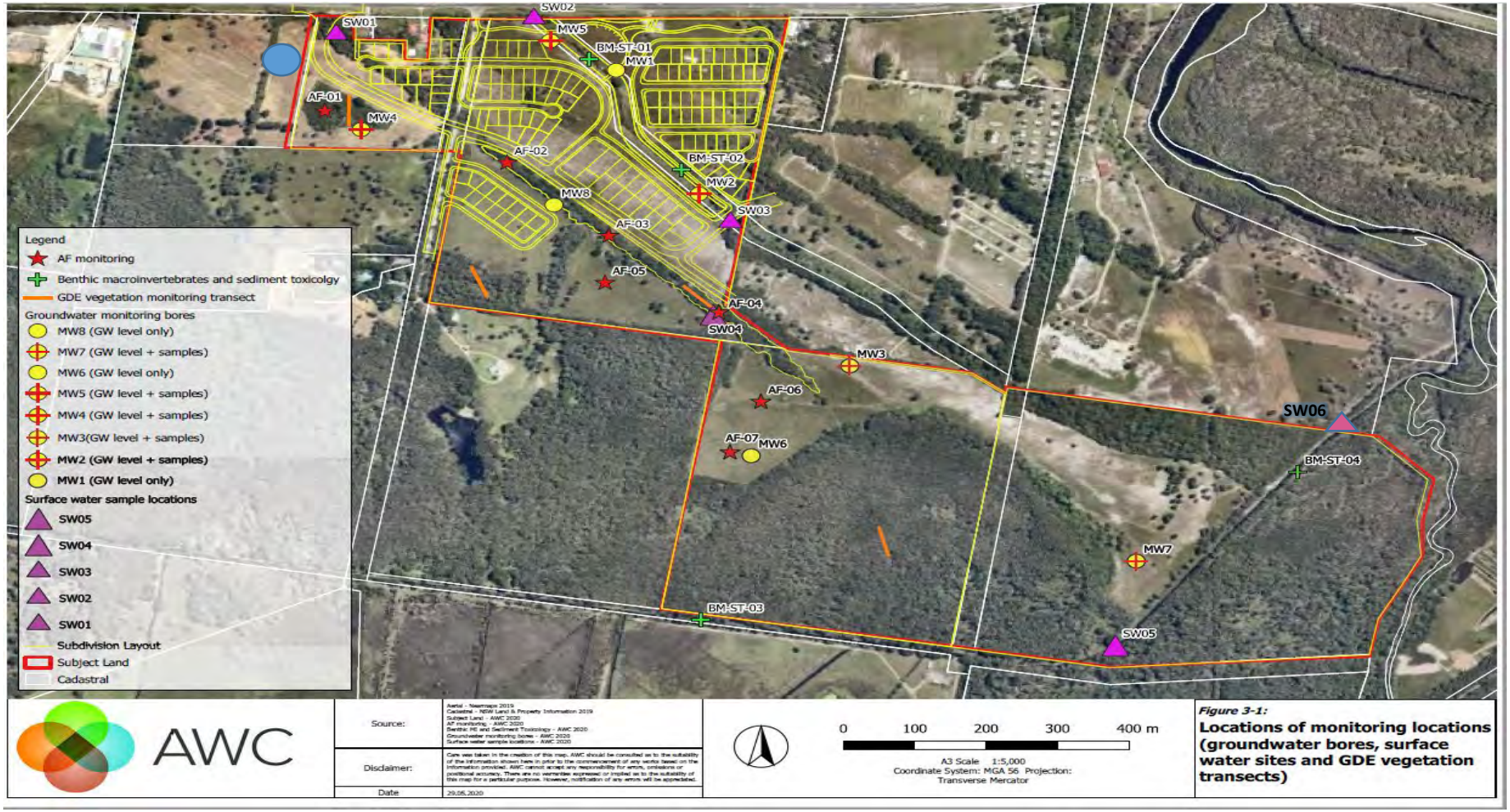


Figure 2 – AWC Surface Water Monitoring Locations
342 Ewingsdale Road, Byron Bay, NSW, 2481

Project: Monthly Water Quality Monitoring
Client: Planit
ENV Project Number: 217140

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APPENDIX 2

Groundwater Quality Analytical Results

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW2	29/09/22	5.8	54	92	<5	0.12	0.51	14	0.02	0.5	30	< 2	< 0.5	0.8	2.4			0.1
	20/10/22	5.6	100	110	<5	0.09	0.24	13	0.02	2	28	< 2	<0.5	0.8	2.2			0.1
	14/11/22	6.0	100	240	<5	0.07	0.24	19	<0.10	<0.2	30	< 2	1.3	1.4	2.4			0.1
	14/12/22	5.6	110	170	<5	0.02	<0.05	15	<0.10	3.1	29	5	<5	<5	<5			0.3
	18/01/23	4.6	130	76	9.2	0.12	0.09	17	<0.05	2.5	29	7	<5	<5	<5			0.4
	20/02/23	6.0	100	160	5.3	0.09	0.1	27	<0.25	0.25	27	3.7	<0.5	0.7	3.1			0.1
	28/03/23	5.9	140	92	17	0.02	0.12	15	<0.02	<0.2	21	7.2	<5	<5	<5			0.5
	18/04/23	6.2	170	88	<5	0.08	1.2	15	<0.02	7.7	18	5.2	<5	<5	<5			0.3
	18/05/23	5.9	130	76	10	0.09	0.1	13	<0.02	9	28	2.1	0.6	0.9	2.6			0.2
	25/06/23	3.3	4,500	3,000	250	0.26	1.6	45	<0.02	8.1	86	3,800	440	82	7.9			84.4
	24/07/23	6.2	220	150	<5	0.03	0.16	12	<0.2	1	24	12	<0.5	0.8	2.5			1.0
	21/08/23	5.7	120	84	<5	0.08	0.14	15	<0.02	1.7	30	2.3	<5	<5	<5			0.2
	18/09/23	5.9	120	130	11	0.04	0.15	13	<0.02	1.2	25	<2	<0.5	0.9	2.7			0.1
	18/10/23	5.6	110	73	6.6	0.30	0.11	15	<0.02	0.3	25	3.0	<0.5	0.9	2.8			0.2
	20/11/23	6.0	160	70	<5	0.11	0.17	16	<0.01	0.8	28	4.2	<0.5	0.8	2.6			0.3
	19/12/23	6.3	110	100	<5	0.05	0.48	16	<0.02	2.8	28	2.1	0.5	0.9	2.9			0.1
	20/01/24	6.2	150	88	<5	0.05	0.08	13	<0.02	1.1	26	<2	<0.5	0.8	3.0			0.1
	26/02/24	5.1	150	340	7.4	0.07	0.09	15	<0.02	8.6	36	14	0.6	1	2.7			0.9
	26/03/24	5.7	180	310	<5	0.07	0.13	16	<0.02	<1	27	6.9	<0.5	0.8	2.7			0.4
	18/04/24	5.7	170	<5	<5	0.05	0.09	15	<0.02	1.8	29	2.6	<0.5	0.9	2.8	3.6	<1	0.17
	20/05/24	5.6	160	120	<5	0.11	0.1	19	<0.02	1	32	2.9	<0.5	0.8	2.8	3.9	<1	0.2
	25/06/24	5.5	170	170	12	0.09	<0.01	21	<0.02	2.7	30	<2	<0.5	0.8	2.3	3.8	<1	0.0
	10/07/24	5.8	150	190	<5	0.03	0.11	15	<0.02	<1	28	2.2	<0.5	0.7	2.7	2.8	<1	0.1
	06/08/24	5.9	170	90	6.9	0.16	0.12	20	<0.1	2.4	25	3.3	<0.5	0.6	2.1	3.4	<1	0.2
	11/09/24	5.7	140	110	<5	0.02	0.83	21	<0.2	<1	28	<2	<0.5	0.7	2.4	2.8	<1	0.0
	09/10/24	5.9	150	210	6.3	0.21	<0.01	17	0.02	<0.2	30	2.8	<0.5	<0.5	2.6	2.4	<1	0.1
	06/11/24	5.7	120	190	6.6	2.0	0.02	17	-	2.3	33	<2	1.0	1	3.1	3.6	<1	0.1
	16/12/24	6.0	120	60	8.0	0.05	<0.1	16	<0.2	0.9	30	5.3	0.14	0.8	2.8	3.5	<1	0.3
	14/01/25	6.4	150	94	610.0	0.03	<0.05	15	<0.1	<0.25	31	<2	<0.5	0.6	2.4	2.7	1	0.1
	11/02/25	5.7	170	150	<5	0.04	<0.1	13	<0.02	<0.5	29	2.8	<0.5	0.6	2.4	2.8	<1	0.2
	24/03/25	5.7	120	190	<5	<0.05	0.05	36	0.02	4.2	28	5.8	<0.5	0.7	2.4	2.7	<1	0.2
	08/04/25	5.7	120	220	<5	0.02	0.03	16	0.03	<2	31	4.2	<0.5	0.7	2.6	3.5	<1	0.3
	09/05/25	6.0	150	210	<5	0.01	<0.1	17	<0.2	1.1	29	7	1.3	0.7	2.6	3.2	<1	0.4
	25/06/25	5.6	180	200	<5	0.06	<0.01	15	<0.02	0.8	33	22	<0.5	0.7	2.6	1.7	<1	1.5
	08/07/25	5.5	190	180	<5	0.04	0.13	14	<0.2	1.6	32	24	<0.5	0.8	2.5	1.7	<1	1.7
	14/08/25	5.8	180	160	12.0	0.07	0.11	15	<0.02	1.9	30	33	<0.5	0.8	2.5	0.82	<1	2.2
MW2 Baseline		**4.2 - 5.7**	**152**	**103**	**483**	**0.45**	**0.338**	**189**	**0.07**	**2.03**	**29.7**	**9.8**	**0.7**	**1.4**	**4.2**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW3	29/09/22	4.2	53	40	370	0.09	0.05	8.8	0.02	0.5	7	<2	< 0.5	1	0.6			0.1
	20/10/22	4.1	64	62	130	0.01	0.2	8	0.02	0.5	7	<2	0.5	0.9	<0.5			0.1
	14/11/22	4.6	57	84	170	0.03	0.27	7.4	<0.02	<0.2	7.1	<2	0.8	0.6	<0.5			0.1
	14/12/22	4.3	43	32	280	<0.01	<0.01	5.2	<0.02	1.1	6	<2	<5	<5	<5			0.2
	18/01/23	4.25	54	28	670	0.03	<0.01	4.1	<0.05	1.4	<5	4.1	<5	<5	<5			1.0
	20/02/23	4.2	36	40	76	0.02	<0.10	6.8	0.06	7.26	7.6	<2	<0.5	1	<0.5			0.1
	28/03/23	4.1	70	44	<5	<0.01	<0.01	7.9	<0.02	0.22	4.8	2.2	<0.5	1	0.6			0.3
	18/04/23	4.6	89	54	110	0.02	0.1	9.6	<0.02	5.7	4.3	4.3	<0.5	0.6	<0.5			0.4
	18/05/23	4.5	60	40	450	0.02	0.04	5.8	<0.02	1	4.8	2.1	0.6	0.8	<0.5			0.4
	15/06/23	4.0	84	48	22	0.27	0.4	5.5	<0.02	1.96	5	63	<0.5	0.8	<0.5			11.5
	24/07/23	4.5	85	59	160	0.04	<0.01	9.5	<0.02	<0.2	5.6	12	<0.5	0.8	<0.5			1.3
	21/08/23	3.9	110	52	100	0.01	<0.01	6.3	<0.02	<0.2	6.6	3.0	<0.5	1.1	<0.5			0.5
	18/09/23	Dry – no sample collected																
	18/10/23	Dry – no sample collected																
	20/11/23	4.0	96	46	120	0.03	<0.02	7.8	<0.01	0.7	5.8	5.0	<0.5	0.7	<0.5			0.6
	19/12/23	4.0	46	30	92	<0.01	0.04	13	<0.02	<0.2	9.7	5.6	<0.5	1.3	0.6			0.4
	20/01/24	4.2	70	28	270	0.01	<0.01	5.4	<0.02	0.6	5.5	<2	<0.5	0.8	<0.5			0.2
	26/02/24	4.5	70	50	29	0.01	0.02	10	<0.02	16	5	4.5	<0.5	0.6	<0.5			0.5
	26/03/24	4.1	67	56	110	<0.01	0.06	5.1	<0.02	0.3	4.4	6.1	<0.5	0.8	<0.5			1.2
	18/04/24	3.7	150	< 5	<5	0.05	0.01	4.6	<0.02	0.7	4	12	<0.5	0.8	<0.5	0.99	<1	0.3
	20/05/24	4.5	36	30	26	0.03	<0.01	31	<0.02	0.3	3	3.9	0.6	<0.5	<0.5	1.1	<1	0.1
	25/06/24	3.5	160	90	120	0.17	<0.01	2.8	<0.02	<0.2	3.1	5	<0.5	<0.5	<0.5	0.7	<1	0.1
	10/07/24	4.4	42	40	300	<0.01	<0.01	4.2	<0.02	0.5	3.5	2.5	<0.5	<0.5	<0.5	0.7	<1	0.6
	06/08/24	4.3	45	22	310	0.03	0.01	4.4	<0.02	3.2	2.5	<2	<.5	<0.5	<0.5	1.0	<1	0.2
	11/09/24	4.2	44	28	720	0.02	<0.1	5	<0.02	<1	3.7	<2	<0.5	<0.5	<0.5	1.3	<1	0.2
	09/10/24	4.2	50	32	430	0.10	<0.01	5.3	<0.02	<0.2	4.1	2.8	2.9	0.6	0.6	0.48	<1	0.2
	06/11/24	4.3	38	20	370	<0.01	0.09	4.8	-	0.9	4.6	<2	0.6	0.7	<0.5	0.84		0.2
	16/12/24	4.3	35	24	63	0.02	<0.01	4.4	<0.02	0.5	3.8	2.2	<0.5	0.7	<0.5	0.75	<1	0.5
	14/01/25	4.5	40	20	38	0.03	0.01	3.3	<0.02	0.5	2.8	<2	<0.5	<0.5	<0.5	0.75	<1	0.3
	11/02/25	4.2	64	36	8.2	<0.01	<0.01	2.9	<0.02	<0.2	3.1	4.4	<0.5	<0.5	<0.5	1.1	<1	1.5
	24/03/25	4.0	79	50	150	0.02	<0.01	13	<0.02	0.9	5.8	3.9	0.8	1.1	<0.5	0.52	1.5	0.3
	08/04/25	4.2	71	38	160	<0.01	0.02	11	<0.02	0.9	7.3	4.1	0.9	1.4	2.6	0.58	1.5	0.4
	09/05/25	4.5	73	74	210	<0.01	0.02	9.9	<0.02	0.8	7	3.1	0.7	0.9	<0.5	0.74	<1	0.3
	25/06/25	4.5	42	44	170	0.05	<0.01	4.4	<0.02	1.9	5	4.3	<0.5	<0.5	<0.5	1.0	<1	1.0
	08/07/25	4.5	47	25	670	0.02	0.03	4.5	0.03	0.6	4.9	2.5	<0.5	<0.5	<0.5	1	<1	0.6
	14/08/25	4.8	34	38	550	0.06	0.06	3.8	0.02	5.7	3.6	4	<0.5	<0.5	<0.5	0.5	<1	1.0
MW3 Baseline		**4.0 - 5.3**	**206**	**140**	**5223**	**1.57**	**0.294**	**121**	**0.167**	**4.14**	**26.4**	**13.4**	**3.8**	**5.3**	**3.1**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW4	09/29/22	4.5	100	88	350	0.03	0.16	22	0.1	1.5	19	<2	3.6	3.7	0.9			0.0
	10/20/22	4.5	110	100	69	0.02	0.78	20	0.04	1	14	<2	3.9	2.1	<0.5			0.1
	11/14/22	4.2	130	340	16	0.01	0.13	30	<0.10	7	22	5	2.6	4.8	1.1			0.2
	12/14/22	4.2	140	140	60	<0.01	<0.05	23	<0.10	3	21	7.8	<5	<5	<5			0.3
	01/18/23	5.73	170	110	170	0.02	0.16	26	<0.50	2.4	20	6.6	<5	<5	<5			0.3
	02/20/23	3.9	87	110	31	0.04	<0.05	15	0.28	3.88	15	5.8	3.5	5.4	0.9			0.4
	03/28/23	4.7	180	120	190	0.04	0.08	28	<0.02	22	18	6	8.8	5.1	<5			0.2
	04/18/23	3.7	500	280	340	0.11	0.07	27	<0.02	0.9	19	130	3.4	5	<0.5			4.8
	05/18/23	5.4	110	72	70	0.03	<0.01	14	<0.02	2.89	11	10	5.7	3.7	<0.5			0.7
	06/15/23	3.8	200	150	130	1.4	0.29	29	<0.02	0.9	21	12	<5	6	<5			0.4
	07/24/23	4.1	170	94	58	0.03	<0.1	24	<0.2	1	20	17	2.8	6.2	0.6			0.7
	08/21/23	3.8	200	120	75	0.03	0.07	18	0.65	1.76	15	3.6	2.0	5.0	<0.5			0.2
	09/18/23	3.8	160	86	21	0.02	0.11	19	0.02	1.1	17	10	1.5	4.1	<0.5			0.5
	10/18/23	3.8	190	110	31	0.08	0.08	25	<0.02	0.9	18	9.3	1.7	4.5	0.5			0.4
	11/20/23	4.4	160	870	28	0.05	0.10	22	<0.01	2.2	15	5.8	3.3	4.0	0.7			0.3
	12/19/23	4.0	190	130	27	0.03	0.41	38	<0.02	1.5	22	13	3.3	7.8	1.0			0.3
	01/20/24	4.2	170	120	27	0.01	0.02	24	<0.02	1.2	17	2.9	5.4	5.1	<0.5			0.1
	02/26/24	3.6	290	190	96	0.03	0.07	27	<0.02	6.9	17	38	10	4.1	<0.5			1.4
	26/03/24	5.6	150	140	18	0.02	0.58	25	<0.02	1.1	15	7	9.3	3.8	<0.5			0.3
	18/04/24	4.3	140	90	12	0.02	0.04	17	<0.02	24	13	6.7	3.2	3.6	<0.5	1.1	2.9	0.4
	20/05/24	5.9	200	180	9.4	0.01	0.83	15	<0.02	1.1	10	5.6	9.6	2.1	<0.5	1.5	6.4	0.4
	25/06/24	4.2	120	100	33	0.10	<0.01	15	<0.02	1.4	9.1	2.3	3.5	2.2	<0.5	1.7	<1	0.2
	10/07/24	6.3	79	46	16	0.02	0.12	8.7	<0.02	1.4	6.4	4	9.7	1	<0.5	0.55	<1	0.5
	06/08/24	4.4	170	100	24	0.02	0.12	26	<0.02	2.4	12	5.5	1.5	3.2	<0.5	0.86	<1	0.2
	11/09/24	5.2	110	74	27	0.02	0.14	21	<0.02	0.6	12	2.5	7.2	2.9	<0.5	1.3	<1	0.1
	09/10/24	4.1	150	140	190	0.10	0.07	25	0.03	0.9	15	6.2	2.9	4	0.7	1.2	<1	0.2
	06/11/24	4.4	130	180	40	0.51	0.04	22	-	1.9	15	2.3	4.7	4.8	<0.5	1.4	3.35	0.1
	16/12/24	5.7	80	70	<5	0.02	<0.1	18	<0.2	1	11	4.1	8.1	3	<0.5	0.99	7.2	0.2
	14/01/25	4.1	180	120	86	0.02	1.3	26	<0.02	1.2	14	2.4	4.4	3.8	<0.5	1.6	<1	0.1
	11/02/25	4.1	170	150	<5	0.01	<0.1	25	<0.02	<0.5	16	3.1	2.5	4.8	<0.5	1.8	<1	0.1
	24/03/25	5.0	110	84	39	<0.05	0.04	22	0.02	5	13	7.6	4.9	3.4	<0.5	0.85	5.76	0.3
	08/04/25	5.2	90	130	22	<0.01	0.03	16	<0.02	1	10	3.7	6.9	2.7	<0.5	0.58	11.9	0.2
	09/05/25	6.0	110	140	45	-	-	14	<0.2	-	8.7	2.7	11	2	<0.5	0.8	13.75	0.2
	25/06/25	5.4	98	140	130	0.06	0.01	12	0.2	1.6	8.8	8.2	8.6	1.6	<0.5	0.98	8.8	0.7
	08/07/25	5.0	110	100	300	0.01	0.23	15	<0.2	<0.5	11	9.4	5.7	2.4	<0.5	1.7	3.35	0.6
	14/08/25	5.7	110	150	600	0.11	0.12	15	0.04	4.7	9.6	4.3	10	2	<0.5	0.64	<1	0.3
MW4 Baseline		**4.0 - 5.8**	**890**	**605**	**1220**	**0.43**	**1.392**	**199**	**0.185**	**4.36**	**146.3**	**19.2**	**11.3**	**15.6**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW5	09/29/22	4.5	59	68	630	0.13	0.41	18	0.02	6.33	14	<2	2	3	0.6			0.1
	10/20/22	4.4	75	82	92	0.02	0.1	15	0.02	0.5	12	<2	2	2	0.5			0.1
	11/14/22	4.6	120	270	150	0.08	0.52	29	<0.10	7.8	26	<2	5	6	1.4			0.0
	12/14/22	4.5	150	150	230	0.02	<0.060	29	<0.05	11	24	10	<5	<5	<5			0.3
	01/18/23	2.8	1,600	1,100	480	0.05	1.7	43	<0.05	5.7	49	7	90	72	<5			0.2
	02/20/23	2.6	2,700	3,200	310	0.03	4.2	27	<0.05	3.2	47	750	390	76	7.8			27.8
	03/28/23	3.0	5,200	3,700	130	0.02	5.9	28	<0.02	11	34	1,100	440	57	7.1			39.3
	04/18/23	2.9	3,800	5,100	300	0.01	4	44	<0.02	4	49	3,800	380	120	4.7			86.4
	05/18/23	3.4	3,100	3,400	150	<0.01	<0.01	15	<0.02	4.9	23	2,200	240	31	4.2			146.7
	06/15/23	2.9	3,000	1,800	640	0.3	2.9	28	<0.02	2.66	64	2,100	410	130	6.5			75.0
	07/24/23	5.5	2,800	1,600	6.0	0.07	0.19	1,400	<0.2	0.5	450	380	25	54	25.0			0.3
	08/21/23	3.3	5,200	3,400	13	0.03	4.6	67	<0.02	5	89	2,200	420	200	9.9			32.8
	09/18/23	3.3	4,500	5,800	6.1	0.01	4.0	51	0.02	3.7	67	4,300	360	140	7.9			84.3
	10/18/23	3.2	4,700	4,900	96	0.03	1.3	58	<0.02	2.1	68	710	380	130	7.3			12.2
	11/20/23	2.8	5,900	7,500	29	0.06	2.7	55	<0.01	11	60	6,600	310	100	6.8			120.0
	12/19/23	2.9	3,100	2,700	230	0.01	4.6	80	<0.02	5.0	80	3,500	290	86	6.9			43.8
	01/20/24	3.2	4,900	6,600	74	0.03	<0.01	52	<0.02	4.5	68	1,000	370	84	7.9			19.2
	02/26/24	2.6	3,400	4,500	180	0.03	0.59	25	<0.02	5.4	51	3,000	290	46	4.0			120.0
	26/03/24	3.2	4,400	3,500	17	0.02	1.8	140	<0.02	2.5	54	11,000	360	77	6.0			78.6
	18/04/24	3.3	4,200	2,200	39	<0.01	0.02	49	0.05	5.1	50	3,300	310	47	4.0	210	1.5	67.3
	20/05/24	3.4	3,100	1,600	8.8	0.03	3.1	53	<0.02	2.9	27	2,900	200	22	2.8	140	1.42	54.7
	25/06/24	3.2	4,100	2,700	310	0.03	<0.01	76	<0.02	7.2	75	1,400	290	60	4.3	320	<1	18.4
	10/07/24	3.5	2,300	2,600	49	0.02	<0.01	14	<0.02	3.9	20	1,900	240	20	2.4	130	<1	135.7
	06/08/24	3.3	170	3,500	14	0.19	4.6	62	<0.02	7.7	56	3,600	310	54	4.2	250	<1	58.1
	11/09/24	3.5	1,700	1,000	38	<0.01	3.9	27	<0.2	4.9	27	750	290	29	3.2	94	<1	27.8
	09/10/24	3.5	1,300	930	46	0.03	<0.01	27	<0.02	1.5	22	870	120	17	1.6	35	<1	32.2
	06/11/24	3.3	2,000	1,300	31	<0.01	4.8	44	-	5	59	680	300	62	4.9	90	3.33	15.5
	16/12/24	3.2	1,800	1,100	53	0.02	21	32	<0.2	2.8	25	980	180	21	2.4	35	5.1	30.6
	14/01/25	3.7	1,600	1,400	190	<0.01	1.3	19	<0.02	2.1	16	320	210	16	1.8	25	8.4	16.8
	11/02/25	3.5	2,000	1,700	69	0.01	2.6	160	<0.02	14	110	860	110	50	2.8	56	1.96	5.4
	24/03/25	3.6	1,000	890	38	<0.05	0.06	20	<0.02	3.3	14	570	140	8.5	1.7	17	8.24	28.5
	08/04/25	3.7	790	700	73	<0.01	0.85	36	<0.02	5.2	42	390	86	16.0	<0.5	13	6.6	10.8
	09/05/25	3.7	1,300	1,200	200	<0.01	1.2	87	<0.2	3.3	24	470	87	11.0	1.5	9.6	9.06	5.4
	25/06/25	3.7	1,300	840	140	0.21	1.5	26	<0.02	2	18	580	140	17.0	1.7	17	8.3	22.3
	08/07/25	4.0	720	480	170	<0.010	0.81	21	<0.2	5.4	20	280	58	10.0	0.9	11	5.3	13.3
	14/08/25	3.8	530	300	230	0.02	0.55	19	<0.02	5.5	11	230	28	4.3	0.5	4.5	6.2	12.1
MW5 Baseline		**4.3 - 5.5**	**191**	**130**	**3003**	**0.97**	**13.4**	**82**	**0.117**	**13.4**	**27.2**	**8.3**	**6**	**8.4**	**5.4**	**<1.0***	**<1***	**<0.5***

Monthly Groundwater Analytical Results

Site	Date	pH	EC (µδ/cm)	TDS (mg/L)	TSS (mg/L)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 (as S) (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Total Al (mg/L)	Calcium : Aluminium ratio	Sulphate : Chloride Ratio
MW7	09/29/22	4.6	26	40	190	0.1	0.3	8.5	0.02	2.5	8.5	<2	1	0.9	0.6			0.1
	10/20/22	4.5	86	70	120	0.01	0.4	12	0.04	2.9	8.5	<2	1.7	1.7	0.5			0.1
	11/14/22	4.5	44	170	<100	0.03	0.01	9.7	<0.10	<2.00	9.7	<2	1.9	1.4	1.4			0.1
	12/14/22	4.6	56	92	23	0.04	<0.10	7.5	<0.20	11	8.7	2.5	<5	<5	<5			0.3
	01/18/23	4.4	63	32	390	0.09	<0.05	7.5	<0.025	2	11	31	<5	<5	<5			4.1
	02/20/23	4.1	87	60	30	0.02	<0.05	9.1	0.42	4.9	5.8	5.7	1.4	1.9	1.1			0.6
	03/28/23	4.5	160	94	18	0.02	0.02	21	<0.02	4.4	12	66	2	2	0.6			3.1
	04/18/23	4.9	150	58	7.4	<0.01	0.11	11	<0.02	<0.20	9.8	120	1.9	0.8	<0.5			10.9
	05/18/23	4.9	78	56	130	0.03	<0.01	11	<0.02	0.89	9.3	9.3	1.4	0.9	<0.5			0.8
	06/15/23	4.6	77	50	30	0.28	0.25	11	<0.02	<0.20	9.2	62	<5	<5	<5			5.6
	07/24/23	5.1	140	100	90	0.12	<0.1	10	<0.2	1	8.5	14	1.9	1.4	0.9			1.4
	08/21/23	5.3	67	34	29	0.08	0.06	8.4	<0.02	0.8	9.0	45	1.8	1.7	0.8			5.4
	09/18/23	5.1	57	78	25	<0.01	0.07	9.6	<0.02	0.8	9.4	83	1.6	2.0	0.8			8.6
	10/18/23	5.2	61	46	10	0.04	0.10	11	<0.02	<0.2	10	160	1.6	2.1	0.8			14.5
	11/20/23	4.1	210	64	13	0.04	<0.02	8.4	<0.01	2.2	8.1	280	2.5	2.2	0.7			33.3
	12/19/23	4.6	91	62	11	0.03	0.09	19	<0.02	0.7	11	5.6	4.4	2.3	0.9			0.3
	01/20/24	4.2	170	130	34	0.01	0.09	21	<0.02	0.3	15	160	2.8	1.4	<0.5			7.6
	02/26/24	4.0	210	190	23	0.03	0.51	44	<0.02	5.8	24	7.5	3.6	2.1	0.5			0.2
	26/03/24	4.4	320	100	22	0.02	0.18	320	<0.02	<1	13	590	1.6	0.9	0.9			1.8
	18/04/24	4.3	100	98	17	0.02	0.07	8.9	<0.02	3	9	380	1.4	1.2	<0.5	1.7	<1	42.7
	20/05/24	4.4	77	56	11	0.05	0.38	6.4	<0.02	1.2	5.4	170	1.3	1	<0.5	2.3	<1	26.6
	25/06/24	4.6	66	36	33	<0.01	<0.01	<0.01	<0.02	0.6	6.7	48	1.1	0.9	<0.5	1.5	<1	0.0
	10/07/24	4.5	74	58	29	<0.01	0.22	6.5	<0.02	2.1	6.2	270	2	1.3	<0.5	0.73	<1	41.5
	06/08/24	4.8	4,600	180	19	0.04	0.06	9.1	<0.02	0.5	5.3	36	1.4	0.9	<0.5	1	<1	4.0
	11/09/24	4.4	75	50	6.4	0.04	<0.1	11	<0.02	1..0	7.1	5.2	1.3	1.1	<0.5	1.4	<1	0.5
	09/10/24	4.3	73	42	71	0.54	<0.01	8	<0.02	1.6	5.8	12	1.3	1.2	<0.5	0.94	<1	1.5
	06/11/24	4.5	59	32	35	0.02	0.03	11	-	1.3	7.8	4.4	1.3	1.4	<0.5	1.6	<1	0.4
	16/12/24	4.3	58	68	29	0.04	<0.1	12	<0.2	1.3	8.5	42	1.6	1.3	<0.5	1.9	<1	3.5
	14/01/25	4.7	63	36	120	0.04	0.02	8.6	0.03	1.3	6.8	7.0	1.7	1.2	0.5	2.4	1.4	0.8
	11/02/25	4.6	68	70	13	0.07	<0.1	9.2	<0.02	1.2	8.4	2	1.5	1.5	0.8	2.7	<1	0.2
	24/03/25	4.1	0	56	28	<0.05	0.02	15	<0.02	1.8	7.7	43	2.3	1.4	<0.5	1.2	1.91	2.9
	08/04/25	4.4	76	70	14	<0.01	0.03	14	<0.02	<1	8.1	31	2.8	1.1	2.1	1.4	2	2.2
	09/05/25	4.7	81	110	24	<0.01	0.03	13	<0.2	1.2	8.1	28	1.5	0.9	<0.5	1.6	<1	2.2
	25/06/25	4.6	65	70	39	0.07	<0.01	8.3	<0.02	<0.2	6.7	56	1.2	0.8	<0.5	1.2	1	6.7
	08/07/25	4.6	65	44	130	0.02	0.14	7.9	<0.02	<0.5	6.3	37	1.4	0.9	<0.5	2.6	<1	4.7
	14/08/25	4.7	60	70	140	0.06	0.01	8.9	0.04	2.2	5.7	15	0.9	0.5	<0.5	0.93	3	1.7
MW7 Baseline		**4.6 - 5.6**	**147**	**100**	**3140**	**0.71**	**0.471**	**172**	**0.048**	**4.15**	**31**	**7.3**	**3.4**	**2.2**	**3.1**	**<1.0***	**<1***	**<0.5***

APPENDIX 3

Surface Water Quality Analytical Results

Surface Water Analytical Results

Site	Date	pH	TDS (mg/L)	TSS (mg/L)	DO (mg/L)	EC (µδ/cm)	TP (mg/L)	NH_3 (mg/L)	Cl (mg/L)	Nitrite (mg/L)	TN (mg/L)	Na (mg/L)	SO_4 as S (mg/L)	Chlorophyll a (µg/L)	Acidity (as CaCO3) mg/L	Sulphate : Chloride Ratio :
SW01	29/09/2022	6.9	180	11	3.1	140	0.47	<0.01	14	<0.02	5.2	30	3.4	450		0.2
	20/10/2022	6.6	320	30	4.7	400	0.03	0.03	22	<0.02	<0.02	31	33	43		1.5
	14/11/2022	6.0	780	4900	0.2	920	3.1	6.9	25	<0.02	14	200	3.7	67		0.1
	14/12/2022	4.5	800	210	3.6	1100	0.15	0.05	24	<0.10	23.27	54	560	88		23.3
	18/01/2023	6.3	380	120	4.7	25	0.047	0.087	24	<0.02	5.2	40	180	25		7.5
	20/02/2023	3.4	1100	32	3.8	1300	0.42	0.37	28	<0.02	8.9	57	350	<5		12.5
	28/03/2023	3.0	2000	100	7.7	3000	<0.01	2.1	29	<0.02	1.29	47	880	<5		30.3
	18/04/2023	7.7	130	33	8.6	320	0.06	0.01	24	<0.02	8.4	16	14	8.8		0.6
	18/05/2023	7.4	130	6	4.4	250	0.21	0.14	11	<0.02	0.9	14	10	<5		0.9
	15/06/2023	3.2	1900	6.8	7.6	2700	0.03	1.6	59	<0.02	2.1	61	1500	<5		25.4
	24/07/2023	7.9	84	<5	8.4	140	0.11	<0.01	6.4	<0.02	0.3	13	4.0	<0.005		0.6
	21/08/2023	6.9	120	25	3.0	190	0.34	0.01	5.6	<0.02	0.4	18	<2	<0.005		0.2
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	No surface water located at monitoring site – no sample collected														
	20/11/2023	7.2	230	6.5	2.9	480	2.0	<0.02	56	<0.01	<0.2	43	160	<0.005		2.9
	19/12/2023	No surface water located at monitoring site – no sample collected														
	23/01/2024	7.0	160	130	2.2	160	3.7	0.06	14	<0.02	1.3	21	69	<0.005		4.9
	26/02/2024	6.2	160	47	7.2	200	0.35	<0.01	9.0	<0.02	3.0	12	59	<5		6.6
	26/03/2024	6.9	26	7.5	8.3	78	0.25	<0.01	6.7	<0.02	0.4	7.5	3.4	<5		0.5
	18/04/2024	7.2	220	23	0.5	390	0.06	0.24	25	<0.02	0.7	32	110	180	13	4.4
	20/05/3034	6.7	160	< 5	3.8	260	0.16	0.01	13	<0.02	0.5	19	33	56	231	2.5
	25/06/2024	6.3	440	15	5.9	710	<0.01	<0.01	12	<0.02	<0.2	23	100	5.7	15	8.3
	10/07/2024	7.0	120	29	5.5	240	0.07	0.01	14	<0.02	1.1	17	6.9	39	12	0.5
	6/08/2024	4.0	760	19	7.6	950	0.08	<0.01	14	<0.02	1.3	23	470	<5	12	33.6
	15/08/2024	6.7	64	<5	7.3	100	0.04	0.01	6.1	<0.02	<0.2	7.2	5.5	<5	<10	0.9
	11/09/2024	6.9	120	250	0.2	190	1.1	0.11	8.9	<0.02	4.1	13	2.6	<10	17	0.3
	24/09/2024 - Investigation	6.3	170	-	-	280	-	-	-	-	-	-	-	-	-	-
	9/10/2024	7.4	190	11	8.9	290	0.38	0.01	14	<0.02	<0.2	20	3.4	<5	<10	0.2
	6/11/2024	7.1	92	400	0.4	140	13	<0.01	8.1	<0.02	2.8	12	2.2	<5	<10	0.3
	16/12/2024	6.9	90	190	3.3	140	0.36	<0.01	8.2	<0.02	0.02	11	5.4	170	<10	0.7
	14/01/2025	6.7	48	7.2	3.5	89	0.14	<0.1	4.8	<0.02	0.6	5.4	<5	<0.005	<10	0.0
	11/02/2025	7.5	390	<5	8.3	620	0.06	0.03	110	<0.02	0.8	16	16	12	<10	0.1
	24/03/2025	6.9	58	<5	8.6	64	0.32	0.02	6.1	<0.02	0.8	7.9	2.4	48	<10	0.4
	31/03/2025	7.1	170	5.8	9.2	200	0.14	<0.01	14	<0.02	1.1	15	6.4	<5	<10	0.5
	8/04/2025	7.2	200	9.4	8.8	230	0.37	0.04	14	<0.02	0.4	18	3.6	<5	<10	0.3
	9/05/2025	7.5	170	<5	-	200	0.2	0.03	10	<0.02	0.8	13	4.5	<5	<10	0.5
	25/06/2025	6.9	130	24	7.5	190	1.1	0.07	6.2	<0.02	1.1	12	7.1	12	22	1.1
	8/07/2025	6.9	150	<5	8	260	0.12	0.18	8	<0.02	0.8	16	5	28	34	1.6
	14/08/2025	7.3	140	7.1	6.9	240	0.17	0.03	11	<0.02	1	16	6	<5	15	
SW01 Baseline		**6.2 – 7.0**	**291**	**73**	**-**	**428**	**3.52**	**0.164**	**118**	**0.039**	**3.5**	**51**	**9**	**768**		**<0.5**

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW01	29/09/2022	1.5	0.003	<0.0002	22	0.002	0.32	2.7	0.005	14	<0.0001	0.015	3	0.071	<1
	20/10/2022	0.66	2	<0.0002	24	0.002	0.16	2.4	0.003	9.1	<0.0001	0.009	2.9	0.042	<1
	14/11/2022	130	1.3	<0.02	280	<0.10	1	130	0.1	73	<0.001	0.3	<50	4.7	<1
	14/12/2022	22	0.0016	<0.002	180	0.014	0.2	1.6	0.015	43	<0.001	0.077	6.8	0.68	<1
	18/01/2023	0.7	<0.010	<0.002	<2	<0.010	<0.01	3.2	<0.01	13	<0.01	<0.01	<5	<0.05	<1
	20/02/2023	37	0.027	0.0004	170	0.019	0.07	0.049	0.049	57	0.002	0.16	6.3	0.35	<1
	28/03/2023	150	0.002	0.0008	290	0.002	0.003	36	0.003	38	0.0001	0.46	5.1	0.97	<1
	18/04/2023	0.53	0.002	<0.0002	13	0.005	0.005	0.002	0.002	2.7	<0.0001	0.002	0.8	0.15	<1
	18/05/2023	0.16	0.002	<0.0002	23	<0.001	0.002	0.24	<0.001	7.5	<0.0001	0.002	2.3	0.02	<1
	15/06/2023	120	0.002	0.0003	350	<0.001	0.004	15	0.003	42	<0.0001	0.24	8.1	0.35	<1
	24/07/2023	0.08	0.003	<0.0002	13	<0.001	0.003	0.38	0.002	4.1	<0.0001	0.002	0.8	0.037	<1
	21/08/2023	0.52	0.001	<0.0002	17	0.001	0.002	1.2	0.001	6.3	<0.0001	0.003	<0.5	0.014	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	No surface water located at monitoring site – no sample collected													
	20/11/2023	0.13	<0.001	<0.0002	26	<0.001	0.002	5.7	<0.001	7.9	<0.0001	0.003	2.2	0.006	<1
	19/12/2023	No surface water located at monitoring site – no sample collected													
	23/01/2024	<0.05	<0.001	<0.0002	30	0.001	<0.001	1.8	<0.001	10	<0.0001	<0.001	3.4	0.006	<1
	26/02/2024	<0.005	<0.001	<0.0002	14.00	<0.001	<0.001	0.93	<0.001	4.60	<0.0001	<0.001	1.70	0.05	<1
	26/03/2024	0.11	<0.001	<0.0002	7.4	<0.001	0.002	0.38	<0.001	2.0	<0.0001	<0.001	1.5	0.013	<1
	18/04/2024	0.06	<0.001	<0.0002	32	<0.001	<0.001	1.4	<0.001	9.5	<0.0001	0.002	2.0	<0.005	<1
	20/05/3034	0.06	<0.001	<0.0002	26	<0.001	0.001	0.86	<0.001	7.0	<0.0001	0.002	1.7	0.014	<1
	25/06/2024	0.69	<0.001	<0.0002	94	<0.001	0.002	0.28	<0.001	15	<0.0001	0.008	2.3	0.055	<1
	10/07/2024	0.25	0.002	<0.0002	28	<0.001	0.003	2.1	<0.001	6.6	<0.0001	0.002	2.0	0.037	<1
	6/08/2024	0.85	<0.001	<0.0002	120	<0.001	0.004	1.3	<0.001	14	<0.0001	0.021	2.3	0.1	<1
	15/08/2024	0.24	<0.001	<0.0002	12	<0.001	0.004	0.33	<0.001	2.8	<0.0001	0.001	1.2	0.027	<1
	11/09/2024	9.1	0.009	0.0005	36	0.023	0.11	49	0.031	8.1	0.0001	0.019	5.2	0.72	<1
	24/09/2024 - Investigation	-	<0.001	<0.001	-	<0.001	0.001	-	<0.001	<0.0001	-	0.004	-	0.04	-
	9/10/2024	0.14	0.001	<0.0002	27	<0.001	0.002	1.7	<0.001	8.1	<0.0001	0.002	1.5	0.017	<1
	6/11/2024	1.2	0.004	<0.0002	26	0.005	0.011	54	0.003	6.1	<0.0001	0.004	2.8	0.041	<1
	16/12/2024	2.4	0.004	<0.0002	22	0.006	0.019	38	0.006	4.5	<0.0001	0.004	2.8	0.092	<1
	14/01/2025	0.15	<0.001	<0.0002	8.8	0.001	0.003	0.34	<0.001	1.8	<0.0001	0.001	0.6	0.018	<1
	11/02/2025	0.58	0.002	<0.0002	13.00	<0.001	<0.001	6.10	<0.001	3.50	<0.0001	0.002	1.00	0.015	<1
	24/03/2025	0.13	<0.001	<0.0002	5.20	<0.001	0.002	0.35	<0.001	1.40	<0.0001	<0.001	1.20	0.037	<1
	31/03/2025	0.10	0.002	<0.0002	22	<0.001	0.003	1.2	<0.001	6.8	<0.0001	0.002	2.4	0.066	<1
	8/04/2025	<0.05	0.002	<0.0002	29	<0.001	<0.001	2.2	<0.001	8.1	<0.0001	0.002	2.4	0.008	<1
	9/05/2025	0.27	<0.001	<0.0002	20	<0.001	0.002	1.6	<0.001	5.9	<0.0001	0.002	1.7	0.030	<1
	25/06/2025	0.11	<0.001	<0.0002	19	<0.001	0.002	0.72	<0.001	4.4	<0.0001	0.002	<0.5	0.032	<1
	8/07/2025	0.05	<0.001	<0.0002	26	<0.001	0.002	0.49	<0.001	7.2	<0.0001	0.002	<0.5	0.024	<1
	14/08/2025	0.14	<0.001	<0.0002	26	<0.001	0.003	0.69	<0.001	6.8	<0.0001	0.002	1.8	0.019	<1
SW01 Baseline		**0.5**	**0.003**	**0.001**	**22**	**0.002**	**0.041**	**1.2**	**0.001**	**16**	**0.0005**	**0.006**	**6**	**0.058**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW01	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	220	220	<100	<100	<20	250	<100	<100	250	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	<50	<50	20	-	<20	<50	100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No surface water located at monitoring site – no sample collected									
	18/10/2023	No surface water located at monitoring site – no sample collected									
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	No surface water located at monitoring site – no sample collected									
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/3034	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Investigation	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/08/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW01 Baseline		**60**	**-**	**24**	**100**	**-**	**50**	**130**	**90**	**170**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW02	29/09/2022	6.9	170	8.8	8	160	0.04	0.03	29	<0.02	1.3	27	2.8	22		0.10
	20/10/2022	6.5	120	6.2	8.7	140	0.02	0.01	17	<0.02	<0.20	16	2.9	<5		0.17
	14/11/2022	6.4	150	210	0.1	190	0.18	<0.01	54	<0.02	13	62	18	24		0.33
	14/12/2022	6.3	110	870	0.1	200	0.27	0.05	26	<0.10	2.7	25	29	14		1.12
	18/01/2023	6.6	220	190	0.1	61	0.79	0.049	31	<0.20	21	27	6.2	61		0.20
	20/02/2023	6.5	240	29	4.4	1300	0.023	0.31	26	<0.10	1.9	29	24	<5		0.92
	28/03/2023	4.8	310	370	5.7	370	1.5	0.19	22	<0.02	<0.20	17	92	<10		4.18
	18/04/2023	6.2	300	60	7.3	410	0.05	0.16	32	<0.02	1.38	25	120	<5		3.75
	18/05/2023	6.5	130	39	6	270	0.06	0.09	25	<0.02	<0.2	18	29	<5		1.16
	15/06/2023	6.4	190	25	8.9	280	0.37	0.23	34	<0.02	1.2	25	38	<5		1.12
	21/08/2023	6.1	430	20	5.7	690	0.02	0.50	36	<0.02	1.2	38	75	<0.005		2.08
	18/09/2023	7.2	180	15	8.1	260	0.06	0.04	31	<0.02	0.8	28	39	<0.005		1.26
	18/10/2023	6.8	150	11	8.1	240	0.05	0.02	40	<0.02	<0.2	28	13	<0.005		0.33
	20/11/2023	6.9	180	18	4.9	350	0.07	0.04	37	<0.01	0.3	26	50	<0.005		1.35
	19/12/2023	6.7	140	15	4.6	240	0.05	0.03	37	<0.02	0.7	29	11	<0.005		0.30
	23/01/2024	6.8	210	27	9.7	350	0.06	0.02	35	<0.02	0.5	31	25	<0.005		0.71
	26/02/2024	4.5	140	43	7.1	190	0.05	0.03	9.0	<0.02	0.6	8.5	65	<5		7.22
	26/03/2024	6.7	44	12	6.8	99	0.07	<0.01	9.5	<0.02	0.5	8.8	8.7	<5		0.92
	18/04/2024	7.6	350	<5	6.4	630	0.03	0.9	93	<0.02	0.6	78	56	<5	<10	0.60
	20/05/2024	6.7	130	27	2.1	210	0.04	0.05	20	<0.02	1.1	18	16	<5	11	0.80
	25/06/2024	6.7	180	9.7	8.8	330	0.03	<0.01	42	0.03	<0.2	35	10	<5	11	0.24
	10/07/2024	7.0	150	8.2	6.1	220	0.01	0.11	22	<0.02	1.9	18	21	<5	<10	0.95
	6/08/2024	6.5	220	8.5	7.0	280	0.06	0.02	39	<0.02	1.7	24	19	<5	20	0.49
	15/08/2024	6.6	48	<5	7.8	80	0.07	0.01	8.0	<0.02	<0.2	7.0	6.9	18	<10	0.86
	11/09/2024	7.1	250	<5	6.1	450	0.02	0.05	90	<0.02	0.3	71	48	<5	<10	0.53
	9/10/2024	7.0	260	<5	8.9	500	0.12	0.03	88	<0.02	0.6	73	35	<5	<10	0.40
	6/11/2024	7.5	300	6.4	6.0	500	0.07	<0.01	89	<0.02	1.0	72	34	<5	<10	0.38
	16/12/2024	6.4	200	110	8.8	310	1.1	<0.01	55	<0.02	0.4	11	19	6.6	<10	0.35
	14/01/2025	6.9	170	<5	4.6	340	0.08	<0.01	51	<0.02	0.9	44	7.7	<0.005	<10	0.15
	11/02/2025	7.1	96	5.6	6.1	150	0.08	<0.01	14	<0.02	1.9	91	3.9	190	<10	0.28
	24/03/2024	3.2	420	7.2	8.6	670	<0.05	0.02	17	<0.02	2.8	17	250	<5	<10	14.71
	31/03/2025	7.2	160	<5	9.8	200	0.14	0.05	14	<0.02	<0.4	16	7	<5	<10	0.50
	8/04/2025	7.2	150	12	6.2	230	0.37	0.03	14	<0.02	0.7	18	3.4	<5	<10	0.24
	9/05/2025	3.9	320	1100	-	560	1.5	0.23	31	<0.02	2.8	18	150	<20	34	4.84
	25/06/2025	7.1	400	9.4	9.8	580	1.5	0.01	88	<0.03	1.5	74	38	38	14	0.40
	8/07/2025	6.9	300	14	8.4	600	0.34	0.58	96	<0.02	0.9	73	38	19	21	2.53
	14/08/2025	7.2	330	6.1	8.6	600	0.05	0.03	120	<0.02	0.7	85	31	<5	<10	3.87
SW02 Baseline		**6.3 – 7.0**	**199**	**495**	**-**	**292**	**1.88**	**0.261**	**161**	**0.06**	**8.6**	**32**	**10**	**182**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW02	29/09/2022	0.42	0.003	<0.0002	19	0.002	0.004	1.5	0.001	5.8	<0.0001	0.002	1.9	0.057	<1
	20/10/2022	0.22	0.001	<0.0002	12	0.001	0.003	0.62	<0.001	3.4	<0.0001	0.001	1.7	0.032	<1
	14/11/2022	1.8	0.037	<0.002	47	<0.001	0.015	53	<0.01	11	<0.001	<0.01	<5	0.096	<1
	14/12/2022	13	0.066	<0.002	38	0.034	0.094	9.7	0.071	5.9	<0.001	0.013	5.1	1	<1
	18/01/2023	3.3	0.023	<0.002	<2	<0.01	0.015	45	0.014	5.8	<0.001	<0.010	<5	0.15	<1
	20/02/2023	12	0.033	0.0002	38	0.009	0.09	0.013	0.013	11	<0.001	0.018	4.1	0.28	<1
	28/03/2023	3.4	0.002	0.0003	43	0.002	0.003	2.5	0.001	8.4	<0.0001	0.024	4.1	0.63	<1
	18/04/2023	0.86	<0.001	<0.0002	20	0.002	0.002	<0.001	<0.001	4	<0.0001	0.006	2.7	0.089	<1
	18/05/2023	0.72	0.002	<0.0002	17	0.002	0.006	1	0.002	4.3	<0.0001	0.003	2.4	0.081	<1
	15/06/2023	1.7	0.001	<0.0002	22	0.001	0.004	2.1	0.001	5.5	<0.0001	0.005	1.9	0.037	<1
	21/08/2023	1.1	<0.001	<0.0002	71	<0.001	<0.001	8.0	<0.001	16	<0.0001	0.024	5.7	0.057	<1
	18/09/2023	1.7	0.003	<0.0002	19	0.002	0.004	3.0	0.002	6.3	<0.0001	0.005	3.0	0.023	<1
	18/10/2023	0.88	0.002	<0.0002	17	0.001	0.003	2.2	0.001	5.5	<0.0001	0.002	1.9	0.014	<1
	20/11/2023	2.3	0.002	<0.0002	19	0.002	0.002	2.6	<0.001	6.7	<0.0001	0.007	1.4	0.032	<1
	19/12/2023	1.1	0.002	<0.0002	19	0.001	0.001	4.8	<0.001	6.5	0.0002	0.004	2.9	0.012	<1
	23/01/2024	2.9	0.003	<0.0002	23	0.002	0.001	5.8	<0.001	7.8	<0.0001	0.007	3.3	0.031	<1
	26/02/2024	1.5	0.001	<0.0002	9.7	0.001	0.003	1.7	<0.001	2.5	<0.0001	0.004	1.4	0.027	<1
	26/03/2024	0.34	<0.001	<0.0002	6.9	0.001	0.003	0.67	<0.001	1.9	<0.0001	0.001	1.8	0.021	<1
	18/04/2024	0.09	<0.001	<0.0002	20	<0.001	<0.001	0.39	<0.001	5.4	<0.0001	<0.001	14	0.014	<1
	20/05/2024	0.71	0.004	<0.0002	19	0.002	0.003	5.6	<0.001	3.8	<0.0001	0.003	3.0	0.015	<1
	25/06/2024	1.1	<0.001	<0.0002	21	<0.001	0.001	1.4	<0.001	4.6	<0.0001	0.004	4.5	0.022	<1
	10/07/2024	1.1	0.002	<0.0002	20	<0.001	0.004	1.2	<0.001	4.2	<0.0001	0.004	2.3	0.047	<1
	6/08/2024	0.61	0.001	<0.0002	17	0.001	0.002	1.4	<0.001	3.7	<0.0001	0.002	3	0.019	<1
	15/08/2024	0.31	0.002	<0.0002	8	0.001	0.004	0.37	<0.001	1.5	<0.0001	0.001	1.4	0.038	<1
	11/09/2024	0.19	<0.001	<0.0002	20	<0.001	0.001	0.31	<0.001	4.8	<0.0001	0.001	14	0.021	<1
	9/10/2024	0.8	<0.001	<0.0002	23	<0.001	0.001	1.5	<0.001	5	<0.0001	0.003	15	0.032	<1
	6/11/2024	0.007	0.001	<0.0002	21	<0.001	<0.001	0.7	<0.001	5.8	<0.0001	<0.001	15	0.011	<1
	16/12/2024	0.05	<0.001	<0.0002	14	<0.001	0.001	0.24	<0.001	3.1	<0.0001	<0.001	9.4	0.008	<1
	14/01/2025	0.06	<0.001	<0.0002	14	0.001	0.002	0.28	<0.001	2.7	<0.0001	0.001	9.4	0.015	<1
	11/02/2025	0.82	<0.001	<0.0002	24	<0.001	0.002	4.4	<0.001	4.8	<0.0001	0.005	19	0.058	<1
	24/03/2024	7.4	<0.001	<0.0002	56	0.002	0.001	22	<0.001	6.9	<0.0001	0.021	1.8	0.097	<1
	31/03/2025	0.25	0.002	<0.0002	23	<0.001	0.003	1.7	<0.001	7.0	<0.0001	0.002	2.5	0.054	<1
	8/04/2025	0.10	0.001	<0.0002	29	<0.001	0.001	2.7	<0.001	8.3	<0.0001	0.002	2.3	0.015	<1
	9/05/2025	2.3	0.007	<0.0002	34	0.005	0.002	140	<0.001	9.1	<0.0001	0.011	2.1	0.077	<1
	25/06/2025	0.30	<0.001	<0.0002	21	<0.001	0.001	1.1	<0.001	5.4	<0.0001	0.002	14	0.030	<1
	8/07/2025	0.15	<0.001	<0.0002	19	<0.001	<0.001	0.65	<0.001	5.3	<0.0001	0.001	12	0.018	<1
	14/08/2025	0.11	<0.001	<0.0002	21	<0.001	<0.001	0.39	<0.001	5.9	<0.0001	<0.001	11	0.012	<1
SW02 Baseline		**3.8**	**0.045**	**0.001**	**17**	**0.007**	**0.012**	**71.9**	**0.02**	**5**	**0.0005**	**0.005**	**6**	**0.09**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW02	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	90	<100	<20	<50	60	30	90	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	180	180	30	-	<20	170	30	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	200	<100	<20	<50	100	<100	100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	140	140	100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/08/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW02 Baseline		**60**	**-**	**22**	**100**	**-**	**50**	**100**	**50**	**140**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW03	29/09/2022	6.8	120	<5	9.3	100	0.02	<0.01	24	<0.02	1.10	23	2.40	<5		0.1
	20/10/2022	5.9	650	26	7.5	870	0.03	<0.01	270	<0.02	<0.2	12	13.00	<5		0.0
	14/11/2022	6.5	140	260	2.6	160	0.13	<0.05	27	<0.01	7.40	36	9.00	<5		0.3
	14/12/2022	6.5	110	11	4.4	160	0.01	0.05	23	<0.01	3.90	18	11.00	<5		0.5
	18/01/2023	6.5	160	9	5.1	<5	0.02	<0.010	31	<0.02	1.30	26	17	<5		0.5
	20/02/2023	3.4	540	13	6.0	720	0.01	<0.010	22	<0.02	5.10	28	100	<5		4.5
	28/03/2023	3.3	400	7	9.9	750	0.02	0.07	14	<0.02	<0.2	16	110	<5		7.9
	18/04/2023	4.2	280	<5	7.4	450	<0.01	0.04	29	<0.02	<0.2	22	140	<5		4.8
	18/05/2023	4.3	310	37	5.5	580	0.02	0.32	22	<0.02	12.33	21	230	<5		10.5
	15/06/2023	3.3	580	17	8.9	870	0.04	0.68	32	<0.02	1.40	31	300	<5		9.4
	24/07/2023	3.9	290	36	9.0	510	0.03	0.40	17	<0.02	1	20	250	<0.005		14.7
	21/08/2023	6.8	270	5.8	7.2	350	0.04	0.04	45	<0.02	0.5	43	8	<0.005		0.2
	18/09/2023	4.6	410	20	7.4	540	<0.01	0.28	30	<0.02	0.4	29	230	<0.005		7.7
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.5	640	18	7.1	1100	0.03	0.58	32	<0.01	0.6	30	370	0.0067		11.6
	19/12/2023	3.8	610	7.7	6.7	850	<0.01	0.86	36	<0.02	0.9	37	150	<0.005		4.2
	23/01/2024	3.7	460	55	4.1	880	<0.01	0.16	31	<0.02	1.6	37	100	<0.005		3.2
	26/02/2024	4.3	200	93	7.5	250	0.09	0.09	53	0.02	1.5	11	440	7.2		8.3
	26/03/2024	6.1	170	54	7.7	300	0.08	0.13	21	<0.02	1.0	20	78	<5		3.7
	18/04/2024	7.5	360	9.2	7.4	650	0.03	0.08	88	<0.02	0.8	78	64	<5	<10	0.6
	20/05/2024	4.5	300	21	5.6	450	<0.01	0.50	19	<0.02	1.2	23	190	<5	66	10.0
	25/06/2024	6.3	80	2300	7.2	140	0.98	<0.1	9.4	<0.2	140	9	5	<5	48	0.5
	10/07/2024	4.4	260	29	5.1	400	0.01	0.64	19	<0.02	0.7	21	10	<5	50	0.5
	6/08/2024	4.6	340	22	6.3	630	0.02	0.62	35	<0.02	1.3	29	230	<5	70	6.6
	15/08/2024	6.3	82	19	8.3	120	0.04	0.07	9.5	<0.02	<0.2	9	31	<5	11	3.3
	11/09/2024	7.1	290	<5	7.7	440	<0.01	0.11	84	<0.02	0.3	66	56	<5	<10	0.7
	9/10/2024	6.6	240	330	7.7	360	0.46	<0.01	56	<0.02	7.1	45	35	33	<10	0.6
	6/11/2024	7.2	300	49	7.5	460	0.07	<0.01	88	<0.02	1.2	72	39	<5	<10	0.4
	16/12/2024	7.2	250	5.3	19.0	370	<0.01	<0.01	70	<0.02	0.7	61	31	50	<10	0.4
	14/01/2025	6.9	220	<5	7.7	420	0.04	<0.01	66	<0.02	1.3	57	11	<5	<10	0.2
	11/02/2025	7.4	340	<5	7.5	570	0.07	0.02	99	<0.02	1.4	87	14	<5	<10	0.1
	24/03/2024	6.9	130	<5	8.1	230	0.05	<0.01	38	<0.02	0.9	32	66	<5	<10	1.7
	31/03/2025	7.0	260	9.3	9.8	440	0.06	0.19	100	<0.02	0.9	70	26	<5	<10	0.3
	8/04/2025	7.2	290	<5	8.9	470	0.04	0.07	100	<0.02	0.4	82	36	<5	<10	0.4
	9/05/2025	7.1	290	<5	-	460	<0.01	<0.1	100	<0.02	0.7	73	36	<5	<10	0.4
	25/06/2025	6.7	360	230	6.5	540	2.3	0.01	88	<0.03	2.3	68	36	46	14	0.4
	8/07/2025	6.8	300	82	9.1	570	0.15	0.48	89	<0.02	1.1	67	39	27	<10	0.4
	14/08/2025	7.2	300	16	9.1	580	0.08	0.05	110	<0.02	1.0	81	32	<5	<10	0.3
SW03 Baseline		**6.1 - 6.7**	**191**	**1005**	**-**	**281**	**2.14**	**0.155**	**111**	**0.041**	**4.3**	**30**	**6**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW03	29/09/2022	0.4	0.00	<0.0002	13	0.00	0.00	0.8	<0.001	4.4	<0.0001	0.002	1.00	0.034	<1
	20/10/2022	0.5	0.00	<0.0002	8	0.00	0.00	0.9	0.00	2.3	<0.0001	0.001	1.00	0.03	<1
	14/11/2022	1.1	<0.001	<0.002	18	<0.001	0.00	1.9	<0.010	5.7	<0.001	<0.01	<5	0.24	<1
	14/12/2022	0.6	<0.001	<0.002	13	<0.01	<0.010	1.3	<0.010	<5	<0.001	<0.01	<5	0.53	<1
	18/01/2023	0.5	0.01	<0.002	<2	<0.010	<0.01	0.5	<0.01	6.2	<0.001	<0.01	<5	<0.05	<1
	20/02/2023	17	0.00	<0.0002	63	0.00	0.02	0.0	0.00	14.0	<0.001	0.065	3.00	0.12	<1
	28/03/2023	15	<0.001	<0.0002	63	0.00	0.00	4.5	<0.001	11.0	<0.0001	0.065	2.30	0.15	<1
	18/04/2023	3.8	<0.001	<0.0002	30	0.00	0.00	<0.001	<0.001	5.0	<0.0001	0.023	2.10	0.048	<1
	18/05/2023	5.8	<0.001	<0.0002	48	<0.001	0.00	14.0	<0.001	10.0	<0.0001	0.033	2.80	0.16	<1
	15/06/2023	11	<0.001	<0.0002	74	<0.001	0.00	12.0	<0.001	15.0	<0.0001	0.058	2.70	0.15	<1
	24/07/2023	7.1	<0.001	<0.0002	39	<0.001	0.002	8.9	0.001	9.7	<0.0001	0.030	2.5	0.10	<1
	21/08/2023	0.7	0.001	<0.0002	18	0.001	0.003	1.1	<0.001	6.3	<0.0001	0.002	6.8	0.026	<1
	18/09/2023	2.8	<0.001	<0.0002	59	<0.001	<0.001	1.1	<0.001	14.0	<0.0001	0.022	3.2	0.049	<1
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12.0	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	11.0	0.002	<0.0002	75	<0.001	<0.001	17	<0.001	17.0	<0.0001	0.060	3.0	0.14	<1
	19/12/2023	21.0	0.003	0.0011	80	<0.001	0.002	3.6	0.001	19.0	0.0007	0.071	4.3	0.16	<1
	23/01/2024	17.0	0.002	<0.0002	63	0.002	0.001	17	<0.001	19.0	<0.0001	0.059	5.1	0.13	<1
	26/02/2024	8.8	0.003	<0.0002	17	0.003	0.005	9.0	0.002	4.8	<0.0001	0.016	1.8	0.050	<1
	26/03/2024	0.9	<0.001	<0.0002	24	<0.001	<0.001	1.8	<0.001	6.1	<0.0001	0.009	2.8	0.025	<1
	18/04/2024	1.1	<0.001	<0.0002	22	<0.001	<0.001	1.8	<0.001	6.0	<0.0001	0.005	13	0.018	<1
	20/05/2024	5.4	0.002	<0.0002	34	<0.001	<0.001	13	<0.001	7.3	<0.0001	0.026	3.6	0.047	<1
	25/06/2024	0.2	<0.001	<0.0002	10	<0.001	<0.001	170	<0.001	2.7	<0.0001	0.011	2.3	0.042	<1
	10/07/2024	3.6	0.001	<0.0002	34	<0.001	0.001	6.6	<0.001	6.6	<0.0001	0.019	3.0	0.053	<1
	6/08/2024	3.10	<0.001	<0.0002	51	<0.001	<0.001	4.8	<0.001	7.8	<0.0001	0.026	3.4	0.092	<1
	15/08/2024	1.20	0.00	<0.0002	12	<0.001	0.003	2.1	<0.001	2.2	<0.0001	0.004	1.6	0.037	<1
	11/09/2024	0.59	<0.001	<0.0002	21	<0.001	0.001	1.0	<0.001	4.9	<0.0001	0.003	13	0.021	<1
	9/10/2024	20	0.02	<0.0002	21	0.011	0.01	39.0	0.008	4.4	<0.0001	0.008	8.8	0.10	<1
	6/11/2024	3	0.00	<0.0002	23	0.002	0.002	4.5	<0.001	6.2	<0.0001	0.003	15	0.017	<1
	16/12/2024	0.29	0.001	<0.0002	19	0.001	<0.001	1.6	<0.001	4.0	<0.0001	0.001	12	0.009	<1
	14/01/2025	0.17	0.001	<0.0002	17	<0.001	0.001	0.74	<0.001	3.3	<0.0001	0.001	12	0.016	<1
	11/02/2025	0.45	0.001	<0.0002	23	<0.001	<0.001	2.1	<0.001	4.5	<0.0001	0.001	18	0.031	<1
	24/03/2024	0.18	0.001	<0.0002	10	<0.001	0.002	0.8	<0.001	2.6	<0.0001	0.001	6.6	0.036	<1
	31/03/2025	0.42	0.002	<0.0002	21	<0.001	0.001	3.5	<0.001	4.9	<0.0001	0.002	11	0.045	<1
	8/04/2025	0.30	<0.001	<0.0002	21	<0.001	<0.001	1.3	<0.001	5.4	<0.0001	0.002	11	0.012	<1
	9/05/2025	0.62	0.002	<0.0002	20	<0.001	0.001	2.0	<0.001	4.9	<0.0001	0.005	11	0.042	<1
	25/06/2025	2.0	0.002	<0.0002	21	<0.001	0.003	6.1	0.001	5.2	<0.0001	0.002	12	0.053	<1
	8/07/2025	0.24	<0.001	<0.0002	19	<0.001	<0.001	0.49	<0.001	5.0	<0.0001	0.001	11	0.015	<1
	14/08/2025	0.20	<0.001	<0.0002	20	<0.001	<0.001	0.59	<0.001	5.8	<0.0001	0.001	11	0.010	**<1**
SW03 Baseline		**7.9**	**0.058**	**0.001**	**21**	**0.008**	**0.028**	**85.5**	**0.028**	**5**	**0.0005**	**0.006**	**4**	**0.26**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW03	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	<50	<100	<20	<50	<100	100	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<50	<100	-	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	130	130	<100	<100	<20	<50	10	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/08/2025	**<50**	**<50**	**<100**	**<100**	**<20**	**<50**	**<100**	**<100**	**<100**	**<100**
SW03 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**120**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW04	29/09/2022	4.5	68	<5	4.8	52	0.01	0.18	20	<0.02	5.1	17	<2	<5		0.05
	20/10/2022	4.2	90	<5	7.5	110	0.01	<0.10	20	<0.02	0.3	16	<2	<5		0.05
	14/11/2022	No surface water located at monitoring site – no sample collected														
	14/12/2022	3.2	190	<5	2	280	0.01	0.05	42	<0.10	3.2	20	<2	<5		0.02
	18/01/2023	No surface water located at monitoring site – no sample collected														
	20/02/2023	4.1	0.2	<5	5.9	160	0.02	0.09	22	<0.10	7.4	23	15	<5		0.7
	28/03/2023	4.2	68	<5	8	130	<0.01	<0.01	17	<0.10	<0.25	14	25	<5		1.5
	18/04/2023	4.6	130	16	9.1	190	0.01	0.03	32	<0.02	0.5	21	8.7	<5		0.3
	18/05/2023	3.6	1200	42	8	1800	0.03	1.2	26	<0.02	1.15	53	1000	<5		38.5
	15/06/2023	4.2	140	160	7.7	200	1.5	0.44	44	<0.02	12	24	<2	8		0.02
	24/07/2023	3.6	1,600	21	9.0	2,400	0.02	1.5	180	<0.02	3.4	78	5,700	<0.005		31.7
	21/08/2023	3.3	2,400	5.7	7.5	3,700	<0.01	2.8	33	<0.02	3.4	97	850	0.0053		25.8
	18/09/2023	No surface water located at monitoring site – no sample collected														
	18/10/2023	6.3	350	44	5.6	490	0.04	0.38	38	<0.02	<0.2	30	170	0.0099		4.5
	20/11/2023	3.2	2,100	<5	9.0	3,500	0.03	0.80	4.7	<0.01	1.1	63	400	<0.005		85.1
	19/12/2023	3.0	3,200	15	0.8	3,700	<0.01	0.44	34	<0.02	4.5	100	980	<0.005		28.8
	23/01/2024	3.1	1,600	23	7.8	2,500	<0.01	0.19	27	<0.02	0.5	54	730	<0.005		27.0
	26/02/2024	3.1	1000	11	7.8	1200	0.03	0.31	14	<0.02	1.5	30	570	<5		40.7
	26/03/2024	3.2	900	5.7	9.6	1300	<0.01	0.36	21	<0.02	0.9	30	710	<5		33.8
	18/04/2024	3.1	980	67	7.5	1900	0.03	0.42	15	<0.02	0.8	33	1000	27	310	66.7
	20/05/2024	3.3	630	8	8.3	1100	<0.01	0.30	11	<0.02	0.7	25	500	<5	190	45.5
	25/06/2024	3.2	1000	5.4	8.6	1600	0.01	0.4	13	<0.02	1.0	27	270	<5	160	20.8
	10/07/2024	3.5	420	<5	7.9	870	<0.01	0.24	11	<0.02	0.6	21	450	<5	150	40.9
	6/08/2024	3.3	1300	38	8.7	1700	0.04	0.03	13	<0.02	1.1	28	860	7.8	230	66.2
	15/08/2024	3.9	240	<5	9.3	390	0.02	0.13	13	<0.02	0.8	16	150	<5	40	11.5
	11/09/2024	3.4	460	<5	6.9	690	0.01	0.05	8.7	<0.02	<0.2	17	390	15	77	44.8
	24/09/2024 - Additional	3.5	750	-	-	1300	-	-	-	-	-	-	-	-	-	-
	9/10/2024	3.1	810	<5	9.0	1200	0.02	<0.01	10	<0.02	0.8	26	580	<5	<10	58.0
	6/11/2024	3.3	440	23	6.4	660	0.05	<0.01	10	<0.02	1.0	18	310	<5	15	31.0
	16/12/2024	5.7	210	420	0.2	360	0.10	0.25	13	<0.02	13	12	110	7	25	8.5
	14/01/2025	4.1	310	120	4.9	460	0.13	0.03	6.3	<0.02	1.3	11	64	<5	<10	10.2
	11/02/2025	7.6	700	<5	8.8	1000	0.01	0.03	5.8	<0.02	1.3	21	150	7.7	<10	25.9
	24/03/2025	3.9	390	21	7.4	470	0.03	0.03	18	<0.02	1.5	24	180	8.1	<10	10.0
	31/03/2025	6.3	260	70	10	370	<0.01	0.10	11	<0.02	0.8	16	160	<5	<10	14.5
	8/04/2025	6.0	430	43	4.1	470	0.09	0.27	11	0.04	2.3	18	240	<10	16	21.8
	9/05/2025	6.5	270	260	-	570	<0.01	0.02	10	<0.02	4.5	16	250	160	<10	25.0
	25/06/2025	6.7	410	67	6.1	590	0.6	0.01	8.3	<0.02	0.6	16	160	6.5	28	19.2
	8/07/2025	4.0	140	180	6.1	160	0.21	<0.01	21	<0.02	6.2	17	<2	7.6	43	21.0
	14/08/2025	6.5	180	250	6.6	290	0.47	-	9.4	-	-	14	86	<5	13	9.4
SW04 Baseline		**4.2 – 4.5**	**112**	**293**	**-**	**165**	**0.5**	**0.693**	**90**	**0.052**	**4.5**	**20**	**3**	**86**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW04	29/09/2022	1.3	0.001	<0.0002	1.6	0.005	0.001	2.7	0.001	2.6	<0.0001	0.002	1	0.027	<1
	20/10/2022	1.1	<0.001	<0.0002	1.3	0.004	0.001	2.4	0.001	2.3	<0.0001	0.002	1	0.024	<1
	14/11/2022	No surface water located at monitoring site – no sample collected													
	14/12/2022	1.2	<0.001	<0.002	<5	<0.001	<0.01	3.2	<0.01	<5	<0.001	<0.01	<5	0.084	<1
	18/01/2023	No surface water located at monitoring site – no sample collected													
	20/02/2023	1.6	0.002	<0.0002	2.7	0.005	0.05	0.002	0.002	3.9	<0.001	0.003	1.6	0.039	<1
	28/03/2023	1.1	<0.01	<0.002	<5	0.002	<0.01	2.7	<0.01	<5	<0.0001	0.01	<5	<0.05	<1
	18/04/2023	0.85	<0.001	<0.0002	1.8	<0.01	<0.001	<0.001	<0.001	2.7	<0.0001	0.001	0.8	0.034	<1
	18/05/2023	41	<0.001	0.0005	200	<0.001	0.003	16	0.003	31	<0.0001	0.11	5.7	0.4	<1
	15/06/2023	3.1	0.002	<0.0002	2.2	0.007	0.007	6.3	0.005	4.5	<0.0001	0.003	1.4	0.075	1.41
	24/07/2023	50	<0.001	0.0002	330	<0.001	0.003	3.9	0.002	51	<0.0001	0.13	9.0	0.18	<1
	21/08/2023	72	0.002	0.0004	560	<0.001	0.003	3.4	0.002	83	<0.0001	0.23	13	0.34	<1
	18/09/2023	No surface water located at monitoring site – no sample collected													
	18/10/2023	3.0	0.001	<0.0002	55	0.002	0.001	5.6	<0.001	12	<0.0001	0.009	2.7	0.027	<1
	20/11/2023	91	0.003	0.0007	380	0.001	0.003	4.3	0.003	52	<0.0001	0.27	7.2	0.55	<1
	19/12/2023	110	0.005	0.0022	570	0.002	0.005	11	0.007	90	0.0010	0.39	4.3	0.70	<1
	23/01/2024	55	0.002	0.0003	260	0.002	0.003	9.7	0.002	35	<0.0001	0.19	6.1	0.33	<1
	26/02/2024	23	<0.001	<0.0002	140	<0.001	<0.001	5.1	<0.001	20	<0.0001	0.083	3.9	0.18	<1
	26/03/2024	20	<0.001	<0.0002	130	<0.001	<0.001	3.1	<0.001	19	<0.0001	0.068	4.9	0.10	<1
	18/04/2024	32	<0.001	<0.0002	190	0.001	0.002	7.0	<0.001	26	<0.0001	0.10	3.6	0.18	<1
	20/05/2024	20	<0..001	<0.0002	100	<0.001	<0.001	5.7	<0.001	14	<0.0001	0.064	2.6	0.13	<1
	25/06/2024	16	<0.001	<0.0002	210	<0.001	<0.001	5.3	<0.001	23	<0.0001	0.059	3.7	0.090	<1
	10/07/2024	12	<0.001	<0.0002	110	<0.001	0.001	2.5	<0.001	12	<0.0001	0.051	2.2	0.11	<1
	6/08/2024	17	<0.001	<0.0002	200	<0.001	0.001	5.5	<0.001	24	<0.0001	0.059	2.5	0.1	<1
	15/08/2024	2.0	<0.001	<0.0002	36	<0.001	<0.001	0.81	<0.001	6.0	<0.0001	0.015	2.5	0.057	<1
	11/09/2024	5.6	<0.001	<0.0002	87	<0.001	<0.001	3.6	<0.001	11	<0.0001	0.026	1.6	0.061	<1
	24/09/2024 - Additional	-	<0.001	<0.0001	-	<0.001	0.0001	-	<0.001	-	<0.0001	0.032	-	0.043	-
	9/10/2024	14	<0.001	<0.0002	140	<0.001	0.002	8.1	<0.001	17	<0.0001	0.057	2.7	0.12	<1
	6/11/2024	2.8	<0.001	<0.0002	81	<0.001	<0.001	6.1	<0.001	11	<0.0001	0.020	<0.5	0.034	<1
	16/12/2024	4.4	0.007	<0.0002	29	0.009	0.006	170	0.003	4.5	<0.0001	0.009	1.3	0.035	<1
	14/01/2025	1.2	<0.001	<0.0002	53	<0.001	0.001	5.8	<0.001	5.8	<0.0001	0.014	0.8	0.039	<1
	11/02/2025	<0.05	<0.001	<0.0002	200	<0.001	<0.001	0.14	<0.001	18	<0.0001	0.004	<0.5	0.033	<1
	24/03/2025	1.1	<0.001	<0.0002	52	<0.001	0.002	6.6	<0.001	8.5	<0.0001	0.012	2.3	0.10	<1
	31/03/2025	0.50	0.003	<0.0002	50	<0.001	0.001	17	<0.001	7.6	<0.0001	0.007	2.4	0.047	<1
	8/04/2025	0.36	0.004	<0.0002	70	<0.001	<0.001	38	<0.001	9.8	<0.0001	0.006	2.3	0.014	<1
	9/05/2025	0.64	<0.001	<0.0002	61	<0.001	0.001	34	<0.001	7.9	<0.0001	0.001	1.9	0.032	<1
	25/06/2025	0.35	<0.001	<0.0002	85	<0.001	<0.001	7.3	<0.001	8.5	<0.0001	0.004	1.3	0.013	<1
	8/07/2025	0.92	<0.001	<0.0002	0.6	0.004	0.002	1.8	<0.001	1.5	<0.0001	0.001	0.8	0.042	<1
	14/08/2025	0.34	<0.001	<0.0002	38	<0.001	<0.001	17	<0.001	5.7	<0.0001	0.002	1.0	0.018	<1
SW04 Baseline		**1.4**	**0.002**	**0.001**	**3.2**	**0.007**	**0.002**	**2.8**	**0.002**	**2.3**	**0.0005**	**0.005**	**2.9**	**0.028**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW04	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	No flow - No sample collected									
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	No flow - No sample collected									
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	No flow - No sample collected									
	18/10/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/11/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<0.05	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	160	160	<100	<100	<20	<50	<100	<100	160	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/09/2024 - Additional	<60	<60	-	<500	<40	<50	<200	<200	-	<0.1
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/08/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW04 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW05	29/09/2022	5.9	480	5.2	7.7	510	0.12	0.17	220	<0.20	3	140	11	<5		0.05
	20/10/2022	6.2	650	7.2	8.9	690	0.06	0.24	180	<0.20	0.5	160	8.6	<5		0.05
	14/11/2022	6.2	820	13	4.7	1000	0.06	<0.05	310	<0.10	8.1	260	100	<5		0.32
	14/12/2022	6.2	830	16	7.5	1100	0.05	0.05	330	<0.10	3.1	240	40	<5		0.12
	18/01/2023	6.3	2800	33	7	<5	0.09	0.09	1300	<0.02	3.38	820	160	<5		0.12
	20/02/2023	6.7	18	18	5.4	2300	0.1	0.07	2000	<0.10	3.4	4700	890	<5		0.45
	28/03/2023	5.6	470	<5	9.4	760	0.02	0.08	200	<0.10	<0.02	110	23	6.7		0.12
	18/04/2023	6.4	4000	16	8.5	5300	0.1	0.12	2000	<0.02	80	1100	230	<5		0.12
	18/05/2023	5.8	260	17	5.7	460	0.08	<0.01	110	<0.02	<0.2	64	25	<5		0.23
	15/06/2023	6.2	1100	<5	8.8	1400	0.58	0.14	450	<0.02	1.1	250	40	<5		0.09
	24/07/2023	6.5	1,600	<5	9.3	2,800	0.05	0.17	1,500	<0.5	1.1	440	1,200	<0.005		0.80
	21/08/2023	6.6	1,600	<5	6.3	2,900	0.06	0.15	1,500	<0.02	1.28	480	190	<0.005		0.13
	18/09/2023	6.6	2,500	13	6.4	3,800	0.06	0.11	1,200	<0.02	1.3	650	210	<0.005		0.18
	18/10/2023	6.9	4,800	6.6	6.5	7,700	0.06	0.05	2,700	<0.02	<0.2	1,300	730	0.01		0.27
	20/11/2023	6.8	2,100	12	4.8	3,700	0.18	0.46	1,100	<0.01	0.6	460	1,200	<0.005		1.09
	19/12/2023	6.7	3,300	14	5.3	5,400	0.19	0.77	1,700	<0.02	<2	1,000	64	<0.005		0.04
	23/01/2024	6.2	1,100	13	9.3	1,000	0.09	0.05	440	<0.02	2.3	260	220	<0.005		0.50
	26/02/2024	6.3	970	16	8.6	1200	0.11	0.03	330	<0.02	1.5	200	130	<5		0.39
	26/03/2024	6.6	1100	9.1	5.6	1700	0.03	0.09	910	<0.02	2.0	290	420	<5		0.46
	18/04/2024	6.5	560	8.4	5.8	830	0.07	0.16	160	<0.02	1.7	110	160	5.4	<10	1.00
	20/05/2024	6.7	240	<5	5.8	350	<0.01	0.03	68	<0.02	0.4	47	140	<5	15	2.06
	25/06/2024	6.5	1000	16	7.7	1800	0.06	0.1	500	<0.02	1.2	300	29	<5	16	0.06
	10/07/2024	6.2	950	5.6	6.3	1700	0.02	0.16	170	<0.02	0.9	280	130	<5	11	0.76
	6/08/2024	6.3	3300	9.0	8.9	5800	0.05	0.11	1500	<0.02	1.2	820	210	<5	27	0.14
	15/08/2024	6.2	300	<5	7.1	430	0.08	0.03	30	<0.02	<0.2	80	27	<5	12	0.90
	11/09/2024	6.4	710	8.2	5.5	1200	0.03	0.40	450	<0.02	1.1	230	72	<5	12	0.16
	9/10/2024	6.4	700	11	9.0	1100	0.15	0.15	320	<0.1	<0.25	180	53	<5	14	0.17
	6/11/2024	7.1	930	15	6.1	1300	0.08	0.16	440	<0.02	1.0	250	56	<5	<10	0.13
	16/12/2024	7.4	31000	26	9.3	44000	0.02	0.14	1400	<0.02	0.4	<0.5	2000	<5	<10	1.43
	14/01/2025	7.1	19000	9.4	6.2	30000	0.04	0.04	12000	<0.02	0.3	5500	500	<5	<10	0.04
	11/02/2025	7.5	24000	9.1	8.5	35000	0.03	0.06	6300	<0.02	<0.2	6900	260	<5	<10	0.04
	24/03/2024	6.3	1600	<5	7	2500	<0.1	0.12	790	<0.02	4.4	440	140	<5	<10	0.18
	31/03/2025	7.0	210	8	9.2	260	0.08	<10	72	<0.02	2.3	41	9.5	<5	<10	0.13
	8/04/2025	6.3	610	8.3	6.7	760	0.08	0.44	230	<0.2	<1	140	29	<10	<10	0.13
	9/05/2025	6.8	340	<5	-	480	0.08	<0.1	120	<0.2	1.7	71	40	<5	<10	0.33
	25/06/2025	6.2	2,000	6.6	5.9	3,500	<0.2	0.07	1,700	<0.2	<0.2	510	250	<5	17	0.14
	8/07/2025	6	470	<5	8	910	0.05	0.03	230	0.07	<0.2	130	41	<5	13	0.18
	14/08/2025	6.2	570	16	6.1	930	0.08	0.03	550	<0.02	16	140	62	6.5	13	0.11
SW05 Baseline		**5.1 – 7.2**	**4710**	**136**	**-**	**6927**	**0.21**	**0.592**	**980**	**<0.02**	**2.2**	**1667**	**115**	**63**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total)	As	Cd	Ca	Cr	Cu	Fe (total)	Pb	Mg	Hg	Ni	K	Zn	Aluminium : Calcium ratio
		(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)	:
SW05	29/09/2022	0.83	<0.001	<0.0002	9.4	0.002	<0.001	4.6	<0.001	17	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.66	<0.001	<0.0002	11	0.001	<0.001	3.5	0.001	19	<0.0001	0.002	7.9	0.007	<1
	14/11/2022	0.75	<0.001	<0.002	18	<0.001	0.002	5.4	<0.01	27	<0.001	<0.001	11	0.12	<1
	14/12/2022	0.93	<0.001	<0.002	16	<0.01	<0.01	6.1	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.73	<0.01	<0.002	<2	<0.01	<0.01	6.2	<0.01	96	<0.001	<0.01	41	<0.05	<1
	20/02/2023	0.22	0.002	<0.0002	190	0.001	0.01	<0.001	<0.001	550	<0.001	0.001	170	0.008	<1
	28/03/2023	0.77	<0.01	<0.002	9.4	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.4	<0.05	<1
	18/04/2023	1	<0.001	<0.0002	42	0.001	<0.001	<0.001	<0.001	110	<0.0001	0.003	37	0.008	<1
	18/05/2023	0.6	<0.001	<0.0002	5.2	<0.001	<0.001	2.4	<0.001	9.1	<0.0001	0.002	4.9	0.009	<1
	15/06/2023	0.32	<0.001	<0.0002	14	0.001	2	2	<0.001	27	<0.0001	0.001	14	0.01	<1
	24/07/2023	0.33	<0.001	<0.0002	22	<0.001	<0.001	1.9	<0.001	52	<0.0001	0.002	25	0.006	<1
	21/08/2023	0.41	<0.001	<0.0002	23	<0.001	0.002	2.2	<0.001	54	<0.0001	0.002	29	0.005	<1
	18/09/2023	0.28	<0.001	<0.0002	29	<0.001	<0.001	2.6	<0.001	70	<0.0001	0.001	42	<0.005	<1
	18/10/2023	0.27	<0.001	<0.0002	61	<0.001	<0.001	2.0	<0.001	160	<0.0001	<0.001	76	<0.005	<1
	20/11/2023	0.51	0.001	<0.0002	25	0.001	<0.001	4.3	<0.001	56	<0.0001	0.002	27	<0.005	<1
	19/12/2023	0.54	0.005	0.0028	46	0.001	0.001	4.2	0.001	120	0.0020	0.002	47	0.009	<1
	23/01/2024	0.90	0.003	<0.0002	16	0.002	0.001	7.8	<0.001	32	<0.0001	0.001	16	0.012	<1
	26/02/2024	0.63	0.001	<0.0002	13	0.001	<0.001	3.7	<0.001	23	<0.0001	0.002	10	0.029	<1
	26/03/2024	0.64	<0.001	<0.0002	16	0.001	<0.001	3.3	<0.001	33	<0.0001	0.002	14	0.008	<1
	18/04/2024	0.69	<0.001	<0.0002	8.3	0.002	0.001	<0.001	<0.001	14	<0.0001	0.008	6.7	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.6	<0.001	0.001	2.5	<0.001	5.1	<0.0001	0.002	3.5	0.008	<1
	25/06/2024	0.2	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	31	<0.0001	0.002	12	0.012	<1
	10/07/2024	0.48	<0.001	<0.0002	17	<0.001	<0.001	2.9	<0.001	31	<0.0001	0.002	11	0.008	<1
	6/08/2024	0.28	<0.001	<0.0002	37	<0.001	<0.001	<0.001	<0.001	100	<0.0001	0.001	30	0.007	<1
	15/08/2024	0.5	<0.001	<0.0002	5.0	0.001	<0.001	1.6	<0.001	8.0	<0.0001	0.001	4.6	0.010	<1
	11/09/2024	0.52	<0.001	<0.0002	14	<0.001	<0.001	2.9	<0.001	25	<0.0001	0.002	10	0.011	<1
	9/10/2024	0.85	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.5	0.016	<1
	6/11/2024	0.68	<0.001	<0.0002	17	0.002	<0.001	3.8	<0.001	29	<0.0001	0.002	12	0.008	<1
	16/12/2024	<0.05	<0.001	<0.0002	<0.5	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.24	0.002	<0.0002	230	0.002	<0.001	0.64	<0.001	660	<0.0001	<0.001	210	0.006	<1
	11/02/2025	0.12	0.002	<0.0002	290	0.001	<0.001	0.5	<0.001	820	<0.0001	<0.001	260	0.047	<1
	24/03/2024	0.54	<0.001	<0.0002	22	<0.001	0.001	3.2	<0.001	53	<0.0001	0.002	17	0.32	<1
	31/03/2025	0.58	<0.001	<0.0002	4.2	<0.001	<0.001	3.7	<0.001	5.2	<0.0001	0.002	3.5	0.062	<1
	8/04/2025	0.77	<0.001	<0.0002	9.9	0.001	<0.001	4.2	<0.001	18	<0.0001	0.002	6.0	0.011	<1
	9/05/2025	0.75	<0.001	<0.0002	6.3	0.001	<0.001	3.2	<0.001	8.5	<0.0001	0.002	3.7	0.015	<1
	25/06/2025	0.46	<0.001	<0.0002	26	<0.001	<0.001	2.0	<0.001	63	<0.0001	0.001	19	0.010	<1
	8/07/2025	0.68	<0.001	<0.0002	9.1	0.001	<0.001	3.0	<0.001	16	<0.0001	0.002	4.9	0.008	<1
	14/08/2025	0.46	<0.001	<0.0002	8.6	<0.001	<0.001	2.6	<0.001	17	<0.0001	0.001	6.2	0.008	13
SW05 Baseline		**2.1**	**0.002**	**0.001**	**57**	**0.002**	**0.003**	**12.3**	0.001	**130**	**0.0005**	**0.011**	**58**	**0.026**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW05	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/11/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/12/2022	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/01/2023	70	70	-	-	<20	60	100	-	-	<100
	20/02/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	28/03/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/05/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/06/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	50	50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	120	120	<100	120	<20	<50	120	<100	130	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/08/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
SW05 Baseline		**60**	**-**	**200**	**100**	**-**	**50**	**100**	**60**	**100**	**-**

Surface Water Analytical Results

Site	Date	pH	TDS	TSS	DO	EC	TP	NH_3	Cl	Nitrite	TN	Na	SO_4 as S	Chlorophyll a	Acidity (as CaCO3)	Sulphate : Chloride Ratio
			(mg/L)	(mg/L)	(mg/L)	(µδ/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	mg/L	:
SW06	29/09/2022	6.0	480	<5	7.8	580	0.13	0.16	220	<0.02	8.6	140	11	5.1		0.05
	20/10/2022	6.3	580	16	8.7	730	0.05	0.19	330	<0.02	0.5	110	7.5	6.2		0.02
	14/11/2022	6.2	840	13	<5	1000	0.04	0.36	310	<0.10	1.1	270	100	<5		0.32
	14/12/2022	6.3	840	16	8.3	1200	0.1	0.05	340	<0.10	5.8	240	44	<5		0.13
	18/01/2023	6.4	3700	31.47	6.8	5400	0.07	0.04	1800	<0.02	2.5	1000	200	<5		0.11
	20/02/2023	6.8	19	89	5.1	14000	0.09	0.11	22	<0.10	4.1	4000	1200	<5		54.55
	28/03/2023	5.6	400	6.2	8.3	730	0.03	0.07	180	<0.20	<0.20	110	18	9.7		0.10
	18/04/2023	6.7	6400	18	7.4	6700	0.07	1.2	3200	<0.02	1.26	1700	360	<10		0.11
	18/05/2023	5.9	280	17	6.3	470	0.08	0.06	120	<0.02	0.4	370	21	<5		0.18
	15/06/2023	6.4	1100	<5	7.4	1400	0.55	0.18	440	<0.02	0.7	250	38	<5		0.09
	24/07/2023	6.7	2,100	5.8	6.6	3,500	0.07	0.23	1,800	<0.2	0.6	540	620	<0.005		0.34
	21/08/2023	6.6	2,800	<5	6.1	5,400	0.19	0.16	1,300	<0.02	0.78	870	59	<0.005		0.05
	18/09/2023	6.7	2,900	24	6.5	4,600	0.06	0.12	1,500	<0.02	0.4	1,300	200	<0.005		0.13
	18/10/2023	6.9	7,900	6.3	6.4	9,700	0.05	0.05	3,700	<0.02	<0.2	1,600	430	<0.005		0.12
	20/11/2023	6.6	2,200	9.9	4.6	4,000	0.18	0.43	1,200	<0.01	1.2	490	720	<0.005		0.60
	19/12/2023	6.8	3,300	9.3	5.6	6,600	0.09	0.82	2,300	<0.02	<2	1,300	94	<0.005		0.04
	23/01/2024	6.2	4,300	15	2.1	4,300	0.18	0.08	2,800	<0.02	1.4	1,100	330	<0.005		0.12
	26/02/2024	6.4	880	17	9.0	1200	0.11	0.02	60	<0.02	1.7	200	10	<5		0.17
	26/03/2024	6.8	1300	9.9	5.9	1900	0.05	0.07	760	0.05	1.2	300	120	<5		0.16
	18/04/2024	6.6	520	5.8	6.0	840	0.06	0.16	170	<0.02	<1	110	31	<5	17	0.18
	20/05/2024	6.3	240	<5	6.1	290	<0.01	0.05	59	<0.02	1.0	42	47	<5	15	0.80
	25/06/2024	6.7	960	17	9.2	1900	0.06	0.09	500	<0.02	5.3	270	21	<5	19	0.04
	10/07/2024	6.2	880	<5	6.2	1600	0.03	0.13	170	<0.02	1.4	250	33	<5	15	0.19
	6/08/2024	6.3	4500	6.8	7.6	8400	0.08	0.15	2100	<0.02	1.6	1200	270	<5	24	0.13
	15/08/2024	6.2	160	<5	7.0	240	0.10	0.03	57	<0.02	<0.2	38	15	<5	14	0.26
	11/09/2024	6.7	710	7.0	6.6	1000	0.04	0.28	370	<0.02	1.8	180	54	<5	11	0.15
	9/10/2024	6.5	720	14	8.5	1000	0.15	<0.01	310	<0.1	4.3	180	33	18	<10	0.11
	6/11/2024	6.9	1900	37	5.6	2400	0.10	0.11	890	<0.02	1.6	490	160	<5	<10	0.18
	16/12/2024	7.7	33000	13	9.5	47000	0.01	0.18	16000	<0.02	<0.2	<0.5	2,100	<5	<10	0.13
	14/01/2025	7.2	25000	11	6.3	38000	0.03	0.06	15000	<0.02	0.7	7200	600	<5	<10	0.04
	11/02/2025	7.6	24000	11	7.2	34000	0.003	0.06	6100	<0.02	<0.2	7200	240	5.9	<10	0.04
	24/03/2025	6.5	1700	<5	6.8	2500	<0.1	0.12	820	<0.02	4.2	450	110	<5	<10	0.13
	31/03/2025	6.7	250	11	9.5	250	0.08	<10	68	<0.02	<1	42	9.7	<5	<10	0.14
	8/04/2025	6.4	610	7.6	9.4	740	0.08	0.28	260	<0.2	<1	140	31	<10	<10	0.12
	9/05/2025	6.6	260	<5	-	490	0.07	<0.1	120	<0.2	<1	70	28	<5	<10	0.23
	25/06/2025	6.2	2,000	7.4	5.9	3,600	1.4	0.08	1,700	<0.2	1.4	520	260	<5	20	1.50
	8/07/2025	6	470	<5	8.2	910	0.05	0.02	230	<0.02	<0.2	130	28	<5	13	0.12
	14/08/2025	6.3	590	31	6.1	910	0.07	0.03	340	<0.02	0.3	140	37	<5	13	0.11
ANZG (2018): 95% Slightly Disturbed		**6.5 – 8.0**	**-**	**<50**	**-**	**<2200**	**<0.05**	**-**	**-**	**-**	**<0.50**	**-**	**-**	**5**		**<0.5***

Surface Water Analytical Results

Site	Date	Al (total) (mg/L)	As (mg/L)	Cd (mg/L)	Ca (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (total) (mg/L)	Pb (mg/L)	Mg (mg/L)	Hg (mg/L)	Ni (mg/L)	K (mg/L)	Zn (mg/L)	Aluminium : Calcium ratio :
SW06	29/09/2022	0.78	<0.001	<0.0002	9.4	0.002	<0.001	4.5	<0.001	18	<0.0001	0.002	7.7	0.008	<1
	20/10/2022	0.54	<0.001	<0.0002	9.1	0.001	<0.001	2.7	0.001	13	<0.0001	0.002	5.8	0.012	<1
	14/11/2022	0.68	<0.001	<0.002	18	<0.001	0.012	5.3	<0.01	29	<0.001	<0.01	12	0.11	<1
	14/12/2022	0.75	<0.001	<0.002	16	<0.01	<0.01	5.4	<0.01	21	<0.001	<0.01	13	<0.05	<1
	18/01/2023	0.63	<0.010	<0.001	<2	<0.01	<0.01	0.01	<0.01	120	<0.001	<0.01	47	<0.05	<1
	20/02/2023	0.34	0.002	<0.0002	170	0.001	0.01	<0.001	<0.001	480	<0.001	0.002	160	0.008	<1
	28/03/2023	1.1	<0.01	<0.002	11	<0.01	<0.01	3.8	<0.01	14	<0.001	<0.01	6.3	<0.05	<1
	18/04/2023	0.54	<0.001	<0.0002	68	0.001	<0.001	<0.001	<0.001	200	<0.0001	0.002	63	0.009	<1
	18/05/2023	0.44	0.003	<0.0002	14	<0.001	<0.001	0.13	<0.001	4.8	<0.0001	0.008	3.3	<0.005	<1
	15/06/2023	0.36	<0.001	<0.0002	15	<0.001	2.1	2.1	<0.001	28	28	0.001	14	<0.005	<1
	24/07/2023	0.36	<0.001	<0.0002	26	<0.001	<0.001	1.9	0.001	65	<0.0001	0.002	29	0.007	<1
	21/08/2023	0.41	<0.001	<0.0002	39	0.001	<0.001	1.9	<0.001	100	<0.0001	0.002	46	<0.005	<1
	18/09/2023	0.30	<0.001	<0.0002	56	<0.001	<0.001	2.4	<0.001	150	<0.0001	0.001	64	<0.005	<1
	18/10/2023	0.20	<0.001	<0.0002	73	<0.001	<0.001	1.7	<0.001	190	<0.0001	<0.001	85	<0.005	<1
	20/11/2023	0.63	0.001	<0.0002	27	0.001	<0.001	4.5	<0.001	60	<0.0001	0.003	28	0.010	<1
	19/12/2023	0.62	0.002	0.0007	56	0.001	0.002	3.4	<0.001	150	0.0005	0.002	55	0.008	<1
	23/01/2024	0.71	0.003	<0.0002	50	0.002	<0.001	5.7	<0.001	140	<0.0001	<0.001	46	0.008	<1
	26/02/2024	0.61	<0.001	<0.0002	14	0.003	<0.001	3.5	<0.001	24	<0.0001	0.005	10	0.025	<1
	26/03/2024	0.61	<0.001	<0.0002	17	0.001	<0.001	3.1	<0.001	34	<0.0001	0.002	15	0.008	<1
	18/04/2024	0.71	<0.001	<0.0002	10	0.001	<0.001	<0.001	<0.001	13	<0.0001	0.008	7.6	0.008	<1
	20/05/2024	0.72	<0.001	<0.0002	5.7	<0.001	<0.001	2.3	<0.001	4.8	<0.0001	0.002	3.2	0.009	<1
	25/06/2024	0.23	<0.001	<0.0002	16	<0.001	<0.001	1.1	<0.001	28	<0.0001	0.002	11	0.016	<1
	10/07/2024	0.5	<0.001	<0.0002	17	<0.001	<0.001	2.6	<0.001	28	<0.0001	0.002	10	0.01	<1
	6/08/2024	0.31	<0.001	<0.0002	50	<0.001	<0.001	<0.001	<0.001	140	<0.0001	0.002	40	0.011	<1
	15/08/2024	0.51	<0.001	<0.0002	4.8	<0.001	0.001	1.6	<0.001	4.6	<0.0001	0.002	3.0	0.011	<1
	11/09/2024	0.46	<0.001	<0.0002	14	<0.001	<0.001	2.1	<0.001	20	<0.0001	0.002	11	0.012	<1
	9/10/2024	0.84	<0.001	<0.0002	12	0.001	<0.001	4.8	<0.001	20	<0.0001	0.002	7.7	0.009	<1
	6/11/2024	0.79	<0.001	<0.0002	25	0.002	<0.001	4.1	<0.001	60	<0.0001	0.002	20	0.010	<1
	16/12/2024	4.4	0.007	<0.0002	29	<0.001	<0.001	<0.05	<0.001	<0.5	<0.0001	<0.001	<0.5	<0.005	<1
	14/01/2025	0.15	0.002	<0.0002	300	0.002	<0.001	0.3	<0.001	860	<0.0001	<0.001	270	<0.005	<1
	11/02/2025	0.09	0.002	<0.0002	300	0.001	<0.001	0.38	<0.001	850	<0.0001	<0.001	270	0.048	<1
	24/03/2025	0.55	<0.001	<0.0002	22	<0.001	<0.001	3.4	<0.001	54	<0.0001	0.002	17	0.027	<1
	31/03/2025	0.59	0.001	<0.0002	4.2	<0.001	<0.001	3.3	<0.001	5.3	<0.0001	0.002	3.5	0.044	<1
	8/04/2025	0.80	<0.001	<0.0002	9.9	0.003	<0.001	4.1	<0.001	18	<0.0001	0.002	6.0	0.007	<1
	9/05/2025	0.74	<0.001	<0.0002	6.3	0.001	0.001	2.8	<0.001	8.5	<0.0001	0.002	3.7	0.010	<1
	25/06/2025	0.70	<0.001	<0.0002	26	<0.001	<0.001	2.6	<0.001	64	<0.0001	0.002	20	0.008	<1
	8/07/2025	0.55	<0.001	<0.0002	11	0.001	0.001	2.3	<0.001	13	<0.0001	0.002	6.3	0.008	<1
	14/08/2025	0.43	<0.001	<0.0002	9.1	<0.001	<0.001	2.4	<0.001	16	<0.0001	0.001	6.3	0.011	13
ANZG (2018): 95% Slightly Disturbed		**0.055**	**0.013**	**0.0002**	**-**	**0.0033**	**0.0018**	**0.3**	**0.0034**	**-**	**0.0006**	**0.011**	**-**	**0.008**	**<1***

Surface Water Analytical Results

Site	Date	Total Recoverable Hydrocarbons (TRH (µg/L)				Total Petroleum Hydrocarbons (TPH) (µg/L)					BTEXN (µg/L)
		C10 – C16	C10 – C16 less Naphthalene	C16 – C34	C34 – C40	C6 – C9	C10 – C14	C15 – C28	C29 – C36	C10 – C36 Sum	Naphthalene
SW06	29/09/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	20/10/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/11/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	14/12/2022	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/01/2023	<50	<50	-	-	<20	<50	<100	<100	-	<100
	20/02/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	28/03/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/04/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	18/05/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	15/06/2023	<50	<50	<50	<100	<20	<50	<100	<100	<20	<100
	24/07/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	21/08/2023	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/09/2023	<20	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/10/2023	90	90	<100	<100	<20	160	<100	<100	160	<100
	20/11/2023	<500	<500	<1,000	<1,000	<20	<500	<1,00	<1,000	<1,000	<100
	19/12/2023	<500	<500	<1,000	<1,000	<20	<500	<1,000	<1,000	<1,000	<100
	23/01/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/02/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	26/03/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	18/04/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	20/05/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	10/07/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	15/08/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/09/2024	2.1	2.1	<100	<100	<20	<50	0.9	<100	0.9	<100
	9/10/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	6/11/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	16/12/2024	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/01/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	11/02/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	24/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	31/03/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/04/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	9/05/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	25/06/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	8/07/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
	14/08/2025	<50	<50	<100	<100	<20	<50	<100	<100	<100	<100
ANZG (2018): 95% Slightly Disturbed		-	-	-	-	-	-	-	-	-	-

APPENDIX 4

Photolog

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
1	14/08/2025

Description

Surface water monitoring location SW04.



Photo No.	Date
2	14/08/2025

Description

Surface water monitoring location SW03.



PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Planit Consulting	Harvest Estate, Melaleuca Drive, Byron Bay, NSW 2481	ENV217140

Photo No.	Date
3	14/08/2025

Description

Surface water monitoring location SW05.



Photo No.	Date
4	14/08/2025

Description

Surface water monitoring location SW02.

