



***Environment Protection and Biodiversity
Conservation Act 1999
Annual Compliance Report***

EPBC Approval: 2017/8017

**Project: Develop the Mesa H Iron Ore Mining Operations
16 km SW Pannawonica, WA**

Report period: 1 January – 31 December 2025

Contents

1	Description of activities	1
2	Audit table	1
3	Blind Cave Eel Action Management Plan	13
3.1	Water quality	15
3.1.1	Robe River pools	15
3.1.2	Jimmawurrada Creek bores	18
3.2	Aquatic fauna and stygofauna diversity	19
3.2.1	Aquatic fauna	19
3.2.2	Stygofauna	19
3.2.3	Blind Cave Eel	20
3.3	Groundwater levels	23
4	New environmental risks	24
5	Declaration of accuracy	25
6	Appendices	26

Tables

Table 1: EPBC Approval Conditions Compliance Table: 2017/8017 Develop the Mesa H Iron Ore Mining Operations 16 km SW Pannawonica, WA	2
Table 2: Environmental management commitments	13
Table 3: Exceedances of Tier 1 and Tier 2 Water Quality SSGVs.....	15
Table 4: Historical groundwater abstraction as Mesa J Hub	17
Table 5: Stygofauna sampling results 2023-2025	19
Table 6: BCE eDNA records 2021-2025	21
Table 7: Quarterly water quality results for RRU3 and comparison to Tier 1 and Tier 2 SSGVs.....	26
Table 8: Quarterly water quality results for RRU4 and comparison to Tier 1 and Tier 2 SSGVs.....	28
Table 9: Quarterly water quality results for Medawandy (RRU5) and comparison to Tier 1 and Tier 2 SSGVs	30
Table 10: Quarterly water quality results for Robe River 3 and comparison to Tier 1 and Tier 2 SSGV	32
Table 11: Quarterly water quality results for Japanese Pool and comparison to Tier 1 and Tier 2 SSGVs ...	35
Table 12: Quarterly water quality results for Martangkuna (RRD1) and comparison to Tier 1 and Tier 2 SSGVs	37
Table 13: Quarterly water quality results for Paturarr (RRD2) and comparison to Tier 1 and Tier 2 SSGVs .	38
Table 14: Quarterly water quality results for Watpari and comparison to Tier 1 and Tier 2 SSGV.....	41
Table 15: Quarterly water quality results for RRD4 and comparison to Tier 1 and Tier 2 SSGVs.....	43
Table 16: Quarterly water quality results for Yeera Bluff and comparison to Tier 1 and Tier 2 SSGVs.....	45
Table 17: Quarterly water quality results for Nyirynmaru and comparison to Tier 1 and Tier 2 SSGV	48
Table 18: Quarterly water quality results for RRD6 and comparison to Tier 1 and Tier 2 SSGVs.....	50
Table 19: Quarterly water quality results for JWO21 and comparison to Tier 1 and Tier 2 SSGVs	53
Table 20: Quarterly water quality results for JWO23 and comparison to Tier 1 and Tier 2 SSGVs	55
Table 21: Quarterly water quality results for JWO29 and comparison to Tier 1 and Tier 2 SSGVs	57
Table 22: Quarterly water quality results for PZ09MEJ004 and comparison to Tier 1 and Tier 2 SSGVs	59

Figures

Figure 1: Groundwater level at bore PZ09MEJ004 (21.738953 S, 116.262437 E)	17
Figure 2: RRD6 in November 2025	18

Figure 3: Live BCE specimen observed in March 2025 at Martangkuna Pool	22
Figure 4: Groundwater levels at Jimmawurrada Creek bores compared to early warning, trigger, and threshold criteria	23

Appendices

Appendix 1: Quarterly water quality results for the Robe River pools and comparison to Tier 1 and Tier 2 SSGVs	26
Appendix 2: Jimmawurrada Creek Groundwater Quality Monitoring Results	53

1 Description of activities

EPBC approval number:	2017/8017
Project name:	Develop the Mesa H Iron Ore Mining Operations 16 km SW Pannawonica, WA
Approval holder:	Robe River Mining Co. Pty. Ltd.
Approval holder's Australian Business Number:	71 008 694 246
Approved action:	To extend the existing Robe Valley mining operations at Mesa J, by developing an open cut mine at the adjacent iron ore deposit at Mesa H, approximately 16 kilometres southwest of Pannawonica WA, through additional mine pits, mineral waste dumps and associated infrastructure, processing facilities and water management infrastructure.
Location of the project:	16 km southwest of Pannawonica WA
Reporting period:	1 January 2025 to 31 December 2025
Report preparation date:	30 April 2026
Implementation phase(s) during reporting period:	Operational

2 Audit table

Details of compliance with each condition under EPBC approval 2017/8017 are presented in Table 1.

Table 1: EPBC Approval Conditions Compliance Table: 2017/8017 Develop the Mesa H Iron Ore Mining Operations 16 km SW Pannawonica, WA

Condition Number	Condition	Compliance status	Evidence/Comments
1	<p>To minimise impacts to the Blind Cave Eel, Ghost Bat, Northern Quoll, Olive Python and Pilbara leaf-nosed bat the approval holder must not:</p> <ol style="list-style-type: none"> a. clear more than 2,200 ha of vegetation within the Development Envelope, including no more than 132 ha within the Mesa H Mining Exclusion Zone (MEZ) as shown in <u>Attachments A</u> and <u>B</u>. b. abstract more than 30 GL/annum of groundwater. 	Compliant	<p>Aerial photography was collected during the reporting period to reconcile ground disturbance and the prescribed clearing limits were not exceeded. Combined clearing within the EPBC Development Envelope totalled:</p> <ul style="list-style-type: none"> • 571.1 ha within the Development Envelope, with 52.7 ha disturbed in 2025. • 13.2 ha within the Mesa H MEZ, with 2.2ha disturbed in 2025 <p>The approval holder abstracted 2.84 GL of groundwater from within the Development Envelope during the reporting period.</p>
2	<p>To minimise impacts to the Blind Cave Eel, Ghost Bat, Northern Quoll, Olive Python and Pilbara leaf-nosed bat, the approval holder must comply with all specifications of the following conditions of the EPA Report and Recommendations that are consequential for these species:</p> <ol style="list-style-type: none"> a. Condition 5 (Condition Environmental Management Plan(s)), b. Condition 6 (Inland Waters and Vegetation), c. Condition 8 (Terrestrial Fauna Habitat – Conservation Significant Fauna Species: Northern Quoll (<i>Dasyurus hallucatus</i>), Ghost Bat (<i>Macroderma giga</i>) and Pilbara Leaf-Nosed Bat (<i>Rhinoicteris aurantia</i> – Pilbara form)). 	Compliant	<p>Condition 5: The Mesa J and H (Mesa J Hub) Environmental Management Plan (EMP) (our ref: RTIO-HSE-0349253) was approved by DWER in September 2024 and implemented thereafter.</p> <p>Condition 6: No irreversible impact to the health of the Robe River and Jimmawurrada Creek ecosystems was identified during the reporting period.</p> <p>Condition 8: No irreversible impact occurred to ‘breakaways and gullies’ habitat retained within the Mesa H MEZ during the reporting period, other than existing and authorised disturbance.</p>
3	<p>To minimise impacts to the Blind Cave Eel, Ghost Bat, Northern Quoll, Olive Python and Pilbara leaf-nosed bat, the Condition Environmental Management Plan(s) specified under Condition 5 of the EPA Report and Recommendations, must (where relevant to Blind Cave Eel, Ghost Bat, Northern Quoll, Olive Python and Pilbara leaf-nosed bat) specify environmental outcomes or objectives related to the mitigation and management of the following key threatening processes:</p> <ol style="list-style-type: none"> a. fire. 	Compliant	<p>The EMP (our ref: RTIO-HSE-0349253) contains the required environmental outcomes and objectives. The EMP was approved by DWER in September 2024 and implemented thereafter.</p> <p>Monitoring of the Ghost Bat during 2024 indicated that the habitat across the Robe Valley is providing suitable roosting conditions to support the long-term persistence of the species long-term and did not</p>

Condition Number	Condition	Compliance status	Evidence/Comments
	<ul style="list-style-type: none"> b. vehicle and machinery movements. c. fauna encounters and sightings. d. weed management. e. feral animal control. f. noise and vibration; and g. dust and light. <p>For 3.f. noise and vibration, the Condition Environmental Management Plan(s) must include monitoring of the Ghost bat and include management targets(s) to ensure that the approved action does not result in significant long term decline in the Ghost Bat population.</p>		<p>identify any decline in Ghost Bat population attributable to the proposal.</p>
4	<p>To minimise impacts to Ghost Bat, that approval holder must implement a Mining Exclusion Zone and blast management to minimise potential impacts to Ghost Bat roosts from noise and vibration associated with mining activities.</p> <p>The Condition Environmental Management Plan specified under Condition 5 of the EPA Report and Recommendations must include and justify appropriate management, avoidance and mitigation measures and may specify different measures for diurnal and nocturnal Ghost Bat roosts.</p> <p>If the action results in permanent significant structural damage to a Ghost Bat roost which cannot be remedied, or a failure to meet the management targets required under Condition 3, the proponent must submit a plan in writing within two months of the occurrence to the Minister for approval. This plan must justify and specify how the impact will be rectified or offset.</p>	Compliant	<p>The Mining Exclusion Zones at Mesa H and RTIO Blast Management Plan were implemented as appropriate throughout the reporting period.</p> <p>A management target was established in the EMP (our ref: RTIO-HSE-0349253) to ensure that the approved action does not result in significant long-term decline in the Ghost Bat population. The EMP was approved September 2024.</p> <p>Blasting activities occurred within 300m of potential maternal or diurnal Ghost Bat roosts JN and MH15_34. No structural damage to Ghost Bat roosts was recorded in the reporting period.</p>
5	<p>To minimise the impacts to the Blind Cave Eel and its habitat the approval holder must ensure that, as a result of the action:</p> <ul style="list-style-type: none"> a. there is no significant change to groundwater quality detrimental to the Blind Cave Eel within its known habitat; and <p>groundwater drawdown in the known pre-mining saturated Blind Cave Eel habitat within the Jimmawurrada Creek alluvial aquifer must not exceed 10 metres in depth below the minimum recorded wet season groundwater level.</p>	Compliant	<p>No significant changes in groundwater quality detrimental to the Blind Cave Eel were identified, see Section 3.1.2</p> <p>Groundwater drawdown did not exceed 10 metres in depth below the minimum recorded wet season groundwater level, see Section 3.3.</p>
6	<p>The approval holder must submit an Action Management Plan that specifies how the approval holder will achieve the outcomes specified in Condition 5 for approval by the Minister. The approval holder must not commence</p>	Compliant	<p>The Blind Cave Eel Action Management Plan was submitted as part of the EMP (our ref: RTIO-HSE-0349253), addressing the required outcomes and</p>

Condition Number	Condition	Compliance status	Evidence/Comments
	<p>abstraction activities that are part of the action unless the Minister has approved the Action Management Plan in writing. The approved Action Management Plan must be implemented. The Action Management Plan must:</p> <ol style="list-style-type: none"> a. justify and specify the definition of the significant change to groundwater quality detrimental to the Blind Cave Eel habitat. b. provide detail of the method(s) to be used within appropriate justification and relevant case studies (noting that method(s) may include but need not be restricted to managed aquifer recharge); c. specify threshold criteria exceedance of which presents a risk of breaching condition 5 and commit to not exceeding those criteria; d. specify trigger criteria that provide an early warning that the threshold criteria could be exceeded; e. specify monitoring capable of determining if trigger criteria and threshold criteria are exceeded; f. include an isopach map illustrating the alluvial thickness in the known pre-mining saturated Blind Cave Eel habitat within the Jimmawurrada Creek alluvial aquifer. The isopach map must: <ol style="list-style-type: none"> I. show the location of the groundwater monitoring bore(s) for which the minimum recorded wet season groundwater level has been measured; II. show the extent of the saturated alluvial thickness which does not exceed 10 metres in depth below the minimum recorded wet season groundwater level; III. identify which bores will be used for compliance monitoring to ensure that the 10 metres in depth below the minimum recorded wet season groundwater level does not occur; IV. include the approval holder's commitment to reporting significant damage or loss of any bore(s) used for compliance monitoring in writing to the Department within seven (7) days of becoming aware of the damage, and the replacement of any bore used for compliance monitoring within three (3) months of the damage occurring, or another period as agreed in writing by the Minister. 		<p>objectives listed under Condition 6. The Action Management Plan was acknowledged as compliant by DWER in September 2024, and by DCCEEW in December 2024.</p> <p>Abstraction activities at Mesa H have not yet commenced.</p>

Condition Number	Condition	Compliance status	Evidence/Comments
	<ul style="list-style-type: none"> g. specify actions to be implemented in the event that the trigger criteria have been exceeded; h. specify threshold contingency actions to be implemented in the event that the threshold criteria are exceeded (these may include but need not be limited to ceasing groundwater abstraction); and i. provide the format and timing for the reporting of monitoring results against trigger criteria and threshold criteria to demonstrate that Condition 5 is being met. 		
7	<p>In the event that monitoring, tests, surveys or investigations indicate exceedance of threshold criteria specified in the Action Management Plan, the approval holder must:</p> <ul style="list-style-type: none"> a. report the exceedance in writing to the Department within seven days of becoming aware of the exceedance; b. commence implementing the threshold contingency actions specified in the Action Management Plan within 24 hours of becoming aware of the exceedance and continue implementation of those actions until the Department has confirmed by notice in writing that the approval holder has demonstrated that the threshold contingency actions are no longer required; c. investigate to determine the cause of the threshold criteria being exceeded; d. undertake investigation to provide the Department with adequate information for it to determine what, if any, harm or alteration of the environment that may affect protected matters occurred due to threshold criteria being exceeded; and e. provide a report to the Department within twenty-one days of the exceedance being reported as required by Condition 7.a, or another time as agreed in writing by the Minister, the report must include: <ul style="list-style-type: none"> I. details of threshold contingency actions implemented; II. the effectiveness of the threshold contingency actions implemented, against the threshold criteria; 	Compliant	There were no exceedances of threshold criteria of the Blind Cave Eel Action Management Plan in 2025, see Section 3 for details.

Condition Number	Condition	Compliance status	Evidence/Comments
	<p>III. the findings of the investigations required by Conditions 7.c. and 7.d.;</p> <p>IV. measures to prevent the threshold criteria being exceeded in the future;</p> <p>V. measures to prevent, mitigate and remedy the environmental harm which may have occurred; and</p> <p>justification of the threshold remaining, or being adjusted based on better understanding, demonstrating that outcomes specified at Condition 5 will continue to be met.</p>		
8	Groundwater management and monitoring must continue until the Minister agrees in writing that the outcomes specified at Condition 5 can be met without active management of groundwater levels by the approval holder.	Compliant	Management and monitoring of groundwater was undertaken during the reporting period.
9	To demonstrate the effectiveness of the Action Management Plan the approval holder must undertake monitoring, using best available methods (noting these may evolve over time) to determine the presence of the Blind Cave Eel within the known pre-mining distribution within Jimmawurrada Creek alluvial aquifer prior to every five years from the anniversary of the date of this approval until the end date of this approval (or the end date of the action as agreed in writing from the Minister). Results of the monitoring must be provided to the Department . The complete findings of each program of monitoring must be provided to the Department in the first annual compliance report submitted after each five-year anniversary of the date of this approval.	Compliant	Findings of the annual Blind Cave Eel monitoring program and a 5-year summary of monitoring activities are reported in the EPBC compliance report for 2017/8017. See Section 3.2.3.
10	<p>To compensate for the residual significant impacts to Ghost Bat, Northern Quoll, Olive Python, Pilbara leaf-nosed bat and the Blind Cave Eel, the approval holder must within fifteen months of the date of this approval, submit an Offset Strategy for the Minister's written approval. The Offset Strategy must:</p> <ul style="list-style-type: none"> a. specify the approach and priorities for providing offsets for the clearing of habitat for Ghost Bat, Northern Quoll, Olive Python and Pilbara leaf-nosed bat; b. specify the approach and priorities for providing offsets as a result of groundwater drawdown for the Blind Cave Eel; c. identify threats for the Ghost Bat, Northern Quoll, Olive Python, Pilbara leaf-nosed bat and the Blind Cave Eel; 	Compliant	<p>The Mesa H Iron Ore Mining Operations Proposal Offset Strategy (Offset Strategy) (our ref: RTIO-HSE-0357289) was submitted on 6 December 2021 and complies with the requirements as outlined in Condition 10:</p> <ul style="list-style-type: none"> a. Refer to Section 4 of the Offset Strategy. b. Refer to Section 4 of the Offset Strategy. c. Refer to Sections 3.1.2, 3.2.2, 3.3.2, 3.4.2 and 3.5.2 of the Offset Strategy. d. Refer to Section 4 of the Offset Strategy. e. Refer to the Mesa H Impact Reconciliation Plan (IRP) (our ref: RTIO-HSE-0354024). f. Section 4 of the Offset Strategy.

Condition Number	Condition	Compliance status	Evidence/Comments
	<ul style="list-style-type: none"> d. nominate detailed offset projects that will realise a conservation benefit for the Ghost Bat, Northern Quoll, Olive Python, Pilbara leaf-nosed bat and Blind Cave Eel in accordance with relevant approved conservation advice, recovery plans and threat abatement plans and regional conservation plans; e. if the proposed Offset Strategy includes offset(s) that do not provide specified site(s) for permanent conservation purposes: <ul style="list-style-type: none"> I. specify a financial commitment of at least \$3,000 AUD (exclusive of GST) per hectare cleared in Area B, and in addition, at least \$833.00 AUD (exclusive of GST) per hectare cleared in Area A. The financial commitment must be adjusted in accordance with the CPI released in each calendar year from the date of this approval decision until the date on which any payment is made; II. provide a financial commitment of at least \$1,000,000 AUD (exclusive of GST) to support research priorities addressing current knowledge gaps that will significantly contribute to long term conservation outcomes for the Blind Cave Eel. f. specify the party to be responsible for implementing the proposed offsets; where appropriate the location and nature of each proposed offset project, along with detailed objectives, budget, timeframes, performance and completion criteria for evaluating conservation or research outcomes, monitoring and reporting requirements; g. specify how research findings will be published; h. include a description of the potential risks to the successful implementation of each proposed offset (including but not limited to environmental, administrative, financial, and governance risks); i. include a description of the measures that will be implemented to mitigate risks associated with each proposed offset and a description of the contingency measures that will be implemented if triggers arise or completion criteria are not met; j. include processes to adaptively manage proposed offsets; 		<ul style="list-style-type: none"> g. Refer to Section 4 of the Offset Strategy. h. Refer to Section 4 of the Offset Strategy. i. Refer to Section 4 of the Offset Strategy. j. Refer to Section 4 of the Offset Strategy. k. Refer to Section 4 of the Offset Strategy. l. Refer to Section 4 of the Offset Strategy.

Condition Number	Condition	Compliance status	Evidence/Comments
	<p>k. explain how the proposed offsets meet the EPBC Act Environmental Offsets Policy; and</p> <p>l. ensure the measures that will be implemented as part of the Offset Strategy have no detrimental impact on listed threatened species under the EPBC Act.</p> <p>The approval holder must implement the approved Offset Strategy. The approval holder must commence implementation of the offsets specified in the approved Offset Strategy within two months of the approval of the Offset Strategy, or another time as agreed in writing by the Minister. The approved Offset Strategy may be varied within the written approval of the Minister. If that variation to the Offset Strategy is approved by the Minister, the varied Offset Strategy must be implemented from the date of approval of the varied Offset Strategy.</p>		
11	<p>Subject to Condition 12, within eight months of approval of the Offset Strategy by the Minister, the approval holder must submit a report to the Department detailing the extent of Ghost Bat, Northern Quoll, Olive Python, and Pilbara leaf-nosed bat habitat cleared, and the total amount of financial commitments that have been made (including for the Blind Cave Eel), as provided for in Condition 10.e, to offset projects in the approved Offset Strategy and detail the implementation of offset projects. Subsequent reports must be provided biennially, with each report due by 30 April in the year following the two-year reporting period. The second report must be provided by 30 April for a period not exceeding two years from the provision of the first report.</p>	Compliant	<p>The Offsets Strategy is yet to be approved.</p> <p>The approval holder requested approval from DAWE on 7 June 2021 to use the Pilbara Environmental Offset Fund established by the Western Australian Government (our ref: RTIO-HSE-0353523) in relation to meeting EPBC offsets requirements for the Northern Quoll, Ghost Bat, Pilbara Leaf-nosed Bat, Pilbara Olive Python and the Blind Cave Eel. The Federal Environment Minister has not yet approved this request.</p> <p>The Impact Reconciliation Procedure (IRP) (our ref: RTIO-HSE-0354024) was submitted to DWER on 30 November 2021, approved by DWER on 18 August 2022 (our ref: RTIO-0210501; DWER ref: DWERT5635).</p> <p>The Impact Reconciliation Report (IRR) for the 2022 – 2023 period was submitted on 29 April 2024 (our ref: RTIO-1027571).The IRP (our ref: RTIO-HSE-0354024) was submitted to DWER on 30 November 2021, approved by DWER on 18 August 2022 (our ref: RTIO-0210501; DWER ref: DWERT5635).</p> <p>The IRR for the 2022 – 2023 period was submitted on 29 April 2024 (our ref: RTIO-1027571).</p>

Condition Number	Condition	Compliance status	Evidence/Comments
12	<p>If a Conservation Offset Fund has been established by the Western Australian Government, and approved the Minister in writing, then Conditions 10 and 11 may not apply (or may cease to be applied) with respect to the offset for each of the Blind Cave Eel, Ghost Bat, Northern Quoll, Olive Python and Pilbara leaf-nosed bat with the agreement by the Minister in writing.</p> <p>Where agreed by the Minister in writing, the approval holder must provide funds biennially to the Conservation Offset Fund. For the Ghost Bat, Northern Quoll, Olive Python and Pilbara leaf-nosed bat the amount of funds provided biennially is to be based on the area of habitat of each species cleared in the biennial reporting period. The funding amounts must be at least \$3,000 AUD (exclusive of GST) per hectare cleared in Area B; and at least \$833.00 AUD (exclusive of GST) per hectare cleared in Area A.</p> <p>For the Blind Cave Eel, the amount will be a payment of at least \$1 million AUD (exclusive of GST) to contribute to long term conservation outcomes for that species.</p> <p>All funds to be paid must be equivalent to the 2019 value of the above amounts by the application of the CPI in each calendar year from the date of this approval decision until the date on which any payment is made.</p> <p>Biennial reporting periods will be based on calendar years with the first biennial reporting period being inclusive of the calendar year in which commencement of the action occurs and the following calendar year. Biennial reports must be submitted to the Department by 30 April following the end of each biennial reporting period.</p>	Not applicable	<p>The approval holder requested approval from DAWE on 7 June 2021 to use the Pilbara Environmental Offset Fund established by the Western Australian Government (our ref: RTIO-HSE-0353523) in relation to meeting EPBC offsets requirements for the Northern Quoll, Ghost Bat, Pilbara Leaf-nosed Bat, Pilbara Olive Python and the Blind Cave Eel. The Federal Environment Minister has not yet approved this request.</p> <p>The IRP (our ref: RTIO-HSE-0354024) was submitted to DWER on 30 November 2021, approved by DWER on 18 August 2022 (our ref: RTIO-0210501; DWER ref: DWERT5635).</p>
13	<p>Prior to making the payment required by Condition 12, the approval holder must submit written evidence to the Department of the total area, including shapefiles, of Ghost Bat, Northern Quoll, Olive Python and Pilbara leaf-nosed bat habitat cleared during the most recently ended biennial reporting period and the calculation (including working out) of the amount of funding that is required to be contributed to the Conservation Offset Fund for that biennial reporting period. Within 48 hours of the payment into the Conservation Offset Fund, evidence of these payments must be provided to the Department in writing.</p>	Compliant	<p>The IRR (our ref: RTIO-1027571) for 2022-2023, inclusive of shapefiles, was submitted to DWER and DCCEEW on 29 April 2024.</p>

Condition Number	Condition	Compliance status	Evidence/Comments
14	The approval holder must notify the Department in writing of the date of commencement of the action within 10 business days after the date of commencement of the action .	Compliant	Notification of commencement of the action was submitted on 25 September 2020 (our ref: RTIO-HSE-0345996) and acknowledged by DAWE on 30 September 2020 (our ref: RTIO-HSE-0347236).
15	The approval holder must maintain accurate and complete compliance records .	Compliant	Records associated with or relevant to the conditions of this approval are maintained within the Rio Tinto Iron Ore Information Management System.
16	If the Department makes a request in writing, the approval holder must provide electronic copies of compliance records to the Department within the timeframe specified in the request.	Not applicable	No requests received during the reporting period.
17	The approval holder must: <ul style="list-style-type: none"> a. submit plans electronically to the Department for approval by the Minister; b. publish each plan on the website within 20 business days of the date the plan is approved by the Minister or of the date a revised action management plan is submitted to the Minister or the Department, unless otherwise agreed to in writing by the Minister; c. exclude or redact sensitive ecological data from plans published on the website or provided to a member of the public; and keep plans published on the website until the end date of this approval.	Not applicable	There were no changes to the Mesa J Hub EMP in the reporting period.
18	The approval holder must ensure that any monitoring data (including sensitive ecological data), surveys, maps, and other spatial and metadata required under a plan , is prepared in accordance with the Department's Guidelines for biological survey and mapped data (2018) and submitted electronically to the Department in accordance with the requirements of the plan.	Compliant	There was no requirement during the reporting period to submit data to the Department in accordance with Mesa H Environmental Management Plan (our ref: RTIO-HSE-0349253).
19	Following commencement of the action , the approval holder must prepare a compliance report for each previous 12 month calendar year period. The approval holder must: <ul style="list-style-type: none"> a. publish each compliance report on the website on 30 April for the previous 12 month calendar year period; 	Compliant	2024 Annual Compliance Report submitted to the Department and published on Rio Tinto's website on 30 April 2024 (our ref: RTIO-1020594).

Condition Number	Condition	Compliance status	Evidence/Comments
	<p>b. notify the Department by email that a compliance report has been published on the website within five business days of the date of publication;</p> <p>c. keep all compliance reports publicly available on the website until this approval expires;</p> <p>d. exclude or redact sensitive ecological data from compliance reports published on the website; and</p> <p>where any sensitive ecological data has been excluded from the version published, submit the full compliance report to the Department within 5 business days of publication.</p>		
20	<p>The approval holder must notify the Department in writing of any: incident; non-compliance with the conditions; or non-compliance with the commitments made in plans. The notification must be given as soon as practicable, and no later than seven business days after becoming aware of the incident or non-compliance. The notification must specify:</p> <p>a. any condition which is or may be in breach;</p> <p>b. a short description of the incident and/or non-compliance; and</p> <p>the location (including co-ordinates), date, and time of the incident (or the date the incident became known of) and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.</p>	Not applicable	There were no non-compliances identified during the reporting period.
21	<p>The approval holder must provide to the Department the details of any incident or non-compliance with the conditions or commitments made in plans as soon as practicable and no later than 21 business days after becoming aware of the incident or non-compliance, specifying:</p> <p>a. any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;</p> <p>b. the potential impacts of the incident or non-compliance; and</p> <p>the method and timing of any remedial action that will be undertaken by the approval holder.</p>	Not applicable	There were no non-compliances identified during the reporting period.
22	<p>The approval holder must ensure that independent audits of compliance with the conditions of this approval are conducted as requested in writing by the Minister.</p>	Not applicable	There were no audits requested during the reporting period.

Condition Number	Condition	Compliance status	Evidence/Comments
23	<p>For each independent audit, the approval holder must:</p> <ul style="list-style-type: none"> a. provide the name and qualifications of the independent auditor and the draft audit criteria to the Department; b. only commence the independent audit once the audit criteria have been approved in writing by the Department; and <p>submit an audit report to the Department within the timeframe specified in the approved audit criteria.</p>	Not applicable	There were no non-compliances identified during the reporting period.
24	The approval holder must publish the audit report on the website within 10 business days of receiving the Department's approval of the audit report and keep the audit report published on the website until the end date of this approval.	Not applicable	There were no non-compliances identified during the reporting period.
25	The approval holder may, at any time, apply to the Minister for a variation to an action management plan approved by the Minister by submitting an application in accordance with the requirements of section 143A of the EPBC Act . If the Minister approves a revised action management plan (RAMP) then, from the date specified, the approval holder must implement the RAMP in place of the previously approved action management plan.	Not applicable	The Blind Cave Eel Action Management Plan was submitted as part of the Mesa J Hub EMP (our ref:RTIO-HSE-0349253) and approved in 2024. No further request for variation was submitted during the reporting period.
26	Within 30 days after the completion of the action , the approval holder must notify the Department in writing and provide completion data .	Not applicable	Implementation of the action is ongoing.

3 Blind Cave Eel Action Management Plan

Action Management Plan requirements for the Blind Cave Eel as per Condition 5 and Condition 6 are incorporated into the Inland Waters and Subterranean Fauna Management Provisions of the Mesa J/H EMP (our ref: RTIO-HSE-0349253).

Table 2: Environmental management commitments

Key environmental factor: Blind Cave Eel Habitat Quality Management Zone	
<p>EPBC Decision Notice 2017/8017 Condition 5a. <i>there is no significant change to groundwater quality detrimental to the Blind Cave Eel within its known habitat.</i> Outcome: Ensure no significant change to groundwater quality detrimental to the Blind Cave Eel within its known habitat associated with implementation of the Action.</p>	
Environmental criteria	Reporting period 1 January – 31 December 2025
<u>Early response criteria:</u>	<u>Status Report</u>
Water quality in any key Robe River surface water pool exceeds Tier 1 SSGV	Early response criterion exceeded
Groundwater physicochemical quality in Jimmawurrada Bores exceeds Tier 1 SSGV	Early response criterion not exceeded
<u>Trigger criteria:</u>	<u>Status Report</u>
Water quality in any key Robe River surface water pool exceeds Tier 2 SSGV	Trigger criterion exceeded
Groundwater physicochemical quality in Jimmawurrada Bores exceeds Tier 2 SSGV	Trigger criterion not exceeded
<u>Threshold criteria:</u>	<u>Status Report</u>
Water quality in any two or more compliance groundwater bores or key Robe River surface water pool exceeds Tier 2 SSGV for two consecutive sampling events with a causal relationship to the Proposal	Threshold criterion not exceeded
<p>AND</p> <p>Ecological Effects Assessment shows a declining trend in aquatic and stygofauna diversity or change to assemblage structure and absence of Blind Cave Eel records (specimen or eDNA) with a causal relationship to the Proposal and effects persisting for a three (3) year rolling window.</p>	Threshold criterion not exceeded

Key environmental factor: Jimmawurrada Creek Alluvial Aquifer Drawdown Management Zone

EPBC Decision Notice 2017/8017 Condition 5b. *groundwater drawdown in the known pre-mining saturated Blind Cave Eel habitat within the Jimmawurrada Creek alluvial aquifer must not exceed 10 metres in depth below the minimum recorded wet season groundwater level.*

Outcome: Ensure groundwater drawdown in the known pre-mining saturated Blind Cave Eel habitat within the Jimmawurrada Creek alluvial aquifer does not exceed 10 metres in depth below the minimum recorded wet season groundwater level.

Environmental criteria	Reporting period 1 January – 31 December 2025
<u>Early response criteria:</u>	<u>Status Report</u>
Groundwater drawdown within the Jimmawurrada Creek alluvial aquifer exceeds 8 metres in depth below the minimum recorded wet season groundwater level in four groundwater bores for two consecutive monitoring events.	Early response criterion not exceeded
<u>Trigger criteria:</u>	<u>Status Report</u>
Groundwater drawdown within the Jimmawurrada Creek alluvial aquifer exceeds 9 metres in depth below the minimum recorded wet season groundwater level in any one groundwater bore for two consecutive monitoring events.	Early response criterion not exceeded
OR Modelling predicts groundwater drawdown will exceed 10 metres in depth below the minimum recorded wet season groundwater level in any one monitored groundwater bore.	Early response criterion not exceeded
<u>Threshold criteria:</u>	<u>Status Report</u>
Groundwater drawdown within the Jimmawurrada Creek alluvial aquifer exceeds 10 metres in depth below the minimum recorded wet season groundwater level with a causal relationship to the Proposal in two or more monitored groundwater bores for a single monitoring event.	Threshold criterion not exceeded
AND Ecological Effects Assessment shows a declining trend in aquatic and stygofauna diversity or change to assemblage structure and absence of Blind Cave Eel records (specimen or eDNA) with a causal relationship to the Proposal and effects persisting for a three (3) year rolling window.	Threshold criterion not exceeded

3.1 Water quality

3.1.1 Robe River pools

Water quality was monitored for the key pools of the Robe River quarterly across 2025, with sampling results presented in Appendix 6. There were a number of exceedances of SSGV values across the Robe River pools, with recorded exceeded values summarised in Table 3 below. As per the Mesa J Hub EMP, Tier 1 levels and Tier 2 levels are triggered by values exceeding SSGVs on two or more monitoring events (with the exception of pH and chlorophyll a). Early response trigger (Tier 1) was exceeded for nitrates and chlorophyll a across different pools of the Robe River. Both early response trigger (Tier 1) and trigger criteria (Tier 2) were exceeded for barium, electrical conductivity (EC), and pH across different pools of the Robe River.

Table 3: Exceedances of Tier 1 and Tier 2 Water Quality SSGVs

Pool	SSGV (Tier 1)	SSGV (Tier 2)	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Exceedance
Barium (mg/L)							
RRU3	0.0702	0.0803	0.064	0.0923	0.0811	0.0799	Tier 2
RR3			No access	0.0499	0.0601	0.0826	None
Martangkuna			0.0875	Dry	Dry	Dry	None
Paturarr			0.0817	0.0509*	0.0431	Dry	None
Watpari			0.13	0.0911	0.0894	Dry	Tier 2
RRD4			0.0911	0.0882	0.068	0.0643	Tier 2
Yeera Bluff			0.0821	0.102	0.0802	0.0774	Tier 2
Nyiyinmaru			0.0896	0.105	0.0929	Dry	Tier 2
RRD6			0.0481	0.0546	0.0551	0.0888	None
Nitrate as N (NO₃-N mg/L)							
RRU4	0.03	15	0.13	0.15	0.1	Dry	Tier 1
Zinc (mg/L)							
Martangkuna	0.00248	0.008	0.003	Dry	Dry	Dry	None
Chlorophyll a (mg/L)							
RRU3	0.01	N/A	<0.001	0.002	0.001	0.056	Tier 1
RR3			No access	0.003	0.034	0.023	Tier 1
Watpari			<0.001	0.017	0.002	Dry	Tier 1
RRD4			0.002	<0.001	<0.001	0.015	Tier 1
Yeera Bluff			0.002	0.027	0.008	0.025	Tier 1
Nyiyinmaru			<0.001	0.003	0.014	Dry	Tier 1
RRD6			0.006	0.006	0.034	1.11	Tier 1
Electrical Conductivity – field (uS/cm)							
RRU3	900	1000	930	1112	932	994	Tier 1
Medawandy			853	900*	895	957	None

Pool	SSGV (Tier 1)	SSGV (Tier 2)	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Exceedance
RR3			No access	896*	911	1045	Tier 1
Martungkuna	1100	1300	1586	Dry	Dry	Dry	None
Paturarr			1579	1533	1267	Dry	Tier 2
Watpari			1024	1684	1045	Dry	None
RRD4	1300	1500	1756	768*	1663	1528	Tier 2
Yeera Bluff			1715	2090	1663	1338	Tier 2
Nyiyinmaru	1400	1600	1742	2140	1978	Dry	Tier 2
RRD6			1004	1207	1264	1961	None
pH							
RRD6	<6.5 OR >8	<6 OR >8.2	7.6	7.53	7.97	8.88	Tier 2
Paturarr		<6 OR >8.3	7.24	6.93	8.12	Dry	Tier 1

* Result from resample taken 16 June 2025

The observed Barium results are likely shaped by multiple interacting hydrogeochemical processes. These include contributions from deeper groundwater sources, particularly where groundwater movement occurs through calcite-rich strata, as well as the reductive mobilisation of barium under sub-oxic to anoxic conditions. Such conditions are characteristic of pools with elevated organic matter loads, where intensified microbial respiration during night-time periods can facilitate the release of Ba from sediment surfaces or from complexes with other constituents, including sulphate species (e.g., SO₄-S) (Sharma et al., 2025).

Strontium (Sr) concentrations in 2025 did not exceed any SSGV Early Response or Trigger thresholds. Nonetheless, Sr remains noteworthy due to a clear longitudinal increase, with both surveys showing rising concentrations from the upstream reference sites through to potential impact zones. This pattern likely reflects greater downstream influence of groundwater inputs, consistent with Sr enrichment in harder waters (ANZG 2018). Several sites also showed reduced Sr from Q2 to Q3, suggesting diminished connectivity between surface pools and underlying alluvial throughflow.

Exceedances are spread across both reference and potential impact pools, indicating limited evidence for a causal relationship to the Mesa J Hub project. Both reference pools and impact pools showed exceedances for barium, EC, and Chlorophyll a, while exceedances of Nitrate as N and pH were only found at reference pools. While all exceedances for EC were above baseline values they followed the known trend of increasing salinity in a downstream direction, which was observed in the baseline period. It is also worth noting that all measurements for Nitrate as N were below the Pilbara SSGV for toxicity (15 mg/L), in waters with high hardness, for 95% species protection.

Although the 2024–25 wet season delivered above-average rainfall (under 350 mm), review of Sentinel-2 false-colour imagery (May 2025) indicates that widespread, connected flow did not occur through the middle reaches of the Robe River, likely due to existing deficit across the catchment following the markedly dry 2023–2024 period. Between the Q2 and Q3 sampling (May to August), less than 15 mm of additional rainfall was recorded in the catchment, providing little opportunity for flow generation. Rain in January 2025 was followed by sustained drier than average conditions for most of 2025, a pattern that is reflected in nearby groundwater level readings (Figure 1).¹

¹ As there are no groundwater monitoring bores in the Robe River due to heritage constraints, a bore in Mesa J has been selected as a proxy. The nearest pool to this bore is Robe River 3.



Figure 1: Groundwater level at bore PZ09MEJ004 (21.738953 S, 116.262437 E)

In 2025, there was no dewatering from Mesa H pits and no discharge from Mesa J. As shown in Table 4, groundwater abstraction in 2025 was well below both the permitted allocation and abstraction levels from recent years.

Table 4: Historical groundwater abstraction as Mesa J Hub

Year	Total abstraction (kL)	Percent of allocation
2022	8,021,359	27%
2023	6,652,124	22%
2024	3,134,202	10%
2025	4,156,044	14%

Considering the sustained dry conditions across the catchment, the occurrence of exceedances at both reference and potential impact pools that follow baseline water quality patterns, and the absence of discharge or dewatering activities at Mesa H, it is concluded that the exceedances are attributed to natural variation in rainfall limiting sufficient recharge to the pools. The observed differences do not appear to be linked to activities at Mesa J Hub given the absence of dewatering discharge that could impact water quality, and the comparable rates of water level decline across the catchment. Overall, temporal water quality patterns were consistent with previous monitoring periods, with upstream reference sites remaining distinct from downstream locations, particularly within drawdown Zone 2. Key parameters contributing to these differences, including EC, TDS, and associated major ions, were comparable to those reported previously, indicating consistent environmental drivers of water quality. These patterns suggest that 2025 water quality results could reflect underlying and fundamental differences between sites, as well as localised impacts (including livestock), which are further exacerbated by broader catchment-scale processes such as ongoing drought-related evapoconcentration.

During Q2 and Q3, in-situ turbidity measurements were not collected at a subset of Robe River pools; Watpari during Q2 and Q3, and RRU3, RRU4, Medawandy, RR3, Paturarr, RRD4, Yeera Bluff, Nyiyinmaru, and RRD6 during Q3. The monitoring program outlined in Appendix 7 of the Mesa J Hub EMP specifies that both in-situ and NATA accredited turbidity measurements are to be collected on a quarterly basis. Based on the available evidence, the absence of in-situ turbidity measurements for Q2 and Q3 is not considered to materially affect interpretation of environmental conditions within the Robe River pools. Turbidity is not identified as a stressor

of concern, and turbidity values recorded during other monitoring periods, supported by NATA-accredited laboratory results and observed variance patterns, indicate that turbidity levels remained low and within ranges associated with minimal ecological risk. The highest turbidity measurements occurred at RRD6 in Q4 (190 NTU and 97.34 NTU, for NATA accredited and in-situ measurements respectively), when the pool was highly contracted and disturbed by livestock, as shown in Figure 2. Overall, the available evidence indicates that observed water quality variability is primarily driven by prolonged dry conditions and associated cattle activity, rather than the absence of in-situ turbidity measurements.



Figure 2: RRD6 in November 2025

Biennial sediment quality analysis was not carried out in 2025.

3.1.2 Jimmawurrada Creek bores

In accordance with the Mesa J Hub EMP, groundwater samples were collected and analysed quarterly from four monitoring bores within Jimmawurrada Creek: PZ09MEJ004, JWO21, JWO23, and JWO29. The groundwater quality results are detailed in Appendix 3, along with the Site-Specific Water Quality Values (SSGVs), where applicable.

There were no exceedances of the physicochemical SSGVs (that is, pH) during the reporting period.

3.2 Aquatic fauna and stygofauna diversity

3.2.1 Aquatic fauna

The 2025 ecological assessment of the Robe River aquatic system demonstrates that the structure and diversity of aquatic fauna remain consistent with long-term natural variability and show no evidence of impact caused by Mesa J Hub operations. Across all biological groups—phytoplankton, cyanobacteria, microinvertebrates, hyporheos fauna, macroinvertebrates, and fish—patterns in richness, abundance, and assemblage composition reflected prevailing dry climatic conditions.

Elevated Chlorophyll-a and cyanobacterial biovolume were recorded across the study area during the late dry season. These exceedances were spatially restricted and occurred in pools exhibiting significant hydrological contraction and nutrient enrichment. Although toxin-producing cyanobacteria were detected at several sites, the magnitude and distribution of exceedances aligned with expected responses to reduced pool volume and increased organic loading.

Across faunal groups, diversity metrics remained within historical ranges. Hyporheos and microinvertebrate assemblages responded strongly to hydrological variability, with reduced connectivity during 2024–2025 contributing to modest declines in richness at some sites. However, these shifts were neither directional nor zone-specific. Macroinvertebrate assemblages, being dominated by opportunistic drought-tolerant taxa, maintained comparable richness to previous years and supported several conservation-significant species. Fish communities displayed reduced richness relative to wetter years, but the observed patterns mirrored natural contraction processes rather than disturbance effects. Recruitment patterns and size structures further highlighted the strong influence of hydrological stability rather than spatial proximity to impact zones.

The non-native species Redclaw crayfish remains confined to Mussel Pool and adjacent upstream sites. Although the established breeding population poses a potential long-term ecological risk, no evidence of downstream spread was detected during 2025.

Overall, the assessment indicates that the Robe River remains resilient under extended dry conditions. No statistically significant differences in fauna richness or assemblage composition were detected between reference and potential impact zones, nor were there signs of persistent ecological change attributable to Mesa J Hub operations. All observed variations are consistent with natural seasonal dynamics and drought-driven hydrological patterns.

3.2.2 Stygofauna

The 2025 monitoring program recorded 4,371 stygofauna specimens from 24 of the 27 bores sampled. Capture rates were strong, with an average of 8,094 specimens per 100 samples, consistent with results from 2021–2024 and ranking as the fourth-highest capture rate since 2003.

The 2025 program identified 41 stygofauna species or operational taxonomic units (OTUs) from 4,371 specimens, spanning 12 orders and 20 families. This represents stability in both capture rate and species richness since 2024 and 2023 (shown in Table 5) Seven taxa were newly recorded, including two harpacticoid copepods. Molecular sequencing prioritised a balanced representation of impact and reference sites to confirm the distribution of taxa across the study area. Of 111 specimens sequenced, 95 produced usable sequences, giving an 85.6% success rate, although 41 identifications could not be resolved to species level. Overall species richness was consistent with previous years (similar to the 2023 and 2024 monitoring results) indicating no detectable decline in the stygofauna community in the study area.

Table 5: Stygofauna sampling results 2023-2025

Year	2023	2024	2025
Rainfall during survey (mm)	31.4	67.2	62.2
Rainfall: 3 months prior to survey (mm)	295.6	94.6	452
Rainfall: 12 months prior to survey (mm)	539	105	541
Sample Number	37	37	54
Specimens collected	3452	2907	4371
Specimens collected per 100 holes	9330	7857	8094

Year	2023	2024	2025
OTUs recorded	41	39	41

3.2.3 Blind Cave Eel

2025

In March 2025, a live adult specimen was observed in Martangkuna Pool, a surface water pool, north of the Mesa J Hub operations and outside of the Mesa H GWDD. The specimen was observed freely swimming in the pool for several minutes, potentially foraging for food (Figure 3). Despite this observation, this species is rarely collected or observed and eDNA sampling and analysis has been used to more effectively investigate the species distribution and persistence.

During the 2025 Robe Valley BCE survey, 35 sites (21 water bores and 14 surface pools), including eight within the Mesa H GWDD, were sampled for eDNA resulting in 11 positive eDNA results. This survey recorded BCE eDNA at three new sites within the known distribution of the BCE (Mid Robe Pool, Mussel Pool and PZ10BUN035). Positive eDNA samples were recorded at one potential impact site (BC186) and five surface water pools within the Robe River, indicating that the parafluvial zones in these pools are being regularly used by the BCE and are likely important habitat. Overall, the results from this survey indicate persistence of the BCE within the Robe River catchment.

5-year summary

From 2021 to 2025, the annual BCE monitoring program was undertaken using a combination of eDNA sampling, net hauling and Karaman sampling. A total of 159 eDNA samples (5 replicates per site) were collected from a combination of groundwater bores and surface water pools. A total of 68 different sites were sampled, some over multiple programs.

The methodology and approach used was largely consistent with the baseline studies, with certain improvements implemented over time. These refinements included improved water sample filtration methods, reduced hold time from sample collection to filtration, the use of DNA shield following filtration, use of the recently developed and published 16S qPCR assay with species specific probe and more rigorous detection categories when determining a positive eDNA result.

The aim of the monitoring was to confirm the persistence of BCE within its known distribution throughout the Robe Valley catchment, as well as to investigate the broader distribution and ecology of the Western Pilbara population. To monitor species persistence, sites with previous BCE records were sampled. To further investigate distribution, a proportion of previously unsampled sites, or sites with a previous negative eDNA result, were sampled. An additional aim was to confirm persistence within the Mesa H GWDD, with a minimum of seven sites within the GWDD extent sampled during each program.

Since the collection of the first BCE specimen in 2009, a total of 13 specimens of the Western Pilbara population of BCE have been collected or observed, despite extensive ongoing survey in the Robe Valley. At the end of the baseline studies (pre-2021), seven specimens had been recorded from five different sites. Between 2021 and 2025 (monitoring), an additional six specimens were recorded from five different sites, including new specimen records from four sites. Of the recent records, the specimen collected in 2024 from BF 2-1, represents the western most specimen record to date. This record supports eDNA findings, showing a distribution extending to the far west of the Robe River catchment. Recent specimen records (2024 and 2025) from Martangkuna Pool and bore 25, show that this species is persisting in its baseline distribution.

With the limited number of specimens collected, most BCE records are from eDNA detections. Including regional surveys, BCE DNA has been detected from 44 different sites to date. During the baseline studies, eDNA was detected from a total of 16 different sites, including five within the Mesa H GWDD. During the monitoring programs eDNA was detected at 25 different sites, including five within the Mesa H GWDD. Thirteen sites had positive BCE detections across three or more monitoring rounds. This included BC186 (within the Mesa H GWDD), which also had a positive detection during the 2025 monitoring. In addition, eDNA was detected at two sites, across all monitoring years (2021 to 2025). These results indicate that the BCE population is persisting in the Robe Valley, including in the Mesa H GWDD. Fourteen sites that had BCE

records in the baseline studies, also recorded positive detections during the monitoring programs, including 2025. This indicates that the population is persisting across its baseline distribution.

At the end of the baseline studies (pre-2021) BCE had been recorded from a total of 21 different sites, over a linear range of approximately 85 km. The monitoring programs (2021 to 2025) yielded records from an additional 19 sites. Records of BCE eDNA in Robe Valley over the last five years are shown in Table 6. These monitoring programs extended the known distribution of the population to several different tributaries of the Robe River and considerably increased the species known range. With the inclusion of targeted surveys and other studies, to date the Western Pilbara population has been recorded from 49 different sites, over a linear range of approximately 125 km. Recent records have extended the known distribution outside of the Robe River catchment, with positive detections from the Fortescue River catchment, Peter Creek, Myanore Creek and Kumina Creek.

The monitoring programs have consistently produced positive detections from new sites, increasing the known distribution of the Western Pilbara BCE population. The programs have also effectively tracked population persistence within this population's baseline (pre-2021) distribution. While eDNA sampling has its limitations, these results demonstrate the effectiveness of the monitoring programs, and the methods and approach used.

Table 6: BCE eDNA records 2021-2025

Site Name	Latitude	Longitude	Site Type	Mesa H GWDD	2021	2022	2023	2024	2025
25	-21.6821	116.3441	Bore		1	1	1	1	
BC186	-21.8175	116.3186	Bore	Impact			1	1	1
Budgie Bore	-21.5587	115.8651	Bore				1		
Gnierooro Pool	-21.7375	116.1717	Pool			1	1		
Japanese Pool	-21.7187	116.2237	Pool				1	1	1
JIMWE0004	-21.7824	116.2903	Bore	Impact			1		
JWO21	-21.7818	116.2758	Bore	Impact			1	1	
JWO24	-21.7909	116.295	Bore	Impact			1		
Martangkuna Pool	-21.7186	116.1987	Pool		1	1	1		
Mid Robe Pool	-21.6877	116.5026	Pool						1
Milimitji Pool	-21.6631	115.9622	Pool		1		1	1	1
Mussel Pool	-21.6993	116.5465	Pool						1
NWCH Pool	-21.6156	115.9218	Pool		1				
Nyatukarukaru pool 2	-21.7466	116.143	Pool		1	1	1	1	
Nyirynmaru (Yirynmaru) Pool	-21.7422	116.1625	Pool		1	1	1	1	1
Nyitha (Yirra Bluff) Pool	-21.732	116.1724	Pool			1	1	1	1
Opp-Pool 01	-21.6912	116.4687	Pool			1		1	
Opp-Pool 02	-21.7234	116.1723	Pool			1	1	1	1
Pirinmarnu Pool	-21.7551	116.0362	Pool			1			
Pool 10	-21.6842	116.3407	Pool		1	1	1	1	1
Pool 11	-21.677	116.3913	Pool		1		1		1
Pool 12	-21.6949	116.474	Pool					1	
PZ10BUN035	-21.8252	116.3547	Bore						1

Site Name	Latitude	Longitude	Site Type	Mesa H GWDD	2021	2022	2023	2024	2025
PZ10BUN041	-21.8148	116.3295	Bore	Impact			1	1	
PZ11BUN001	-21.8642	116.5939	Bore				1		
PZ11BUN008	-21.8173	116.709	Bore		1		1	1	
Robe River 6A	-21.5315	115.8558	Bore			1			
RR1	-21.7205	116.2185	Bore				1	1	
RRWS01	-21.7276	116.2697	Pool			1	1	1	
RRWS01 Pool 2	-21.7318	116.2652	Pool					1	
RRWS02 Pool	-21.7311	116.2598	Pool				1		
			Positive Detections		9	12	22	17	11
			No. Sites Sampled		29	30	32	33	35



Figure 3: Live BCE specimen observed in March 2025 at Martangkuna Pool

3.3 Groundwater levels

Groundwater levels declined in all monitoring points during 2025, which is consistent with seasonal variation from wet to dry season (Figure 4). The early warning criterion was not exceeded at any of the monitoring bores. The northern-most bore (PZ09MEJ004) recorded a slight increase in groundwater level in response to higher-than-average January rainfall, indicating Jimmawurrada Creek alluvial aquifer is responsive to significant rainfall. Slowly declining groundwater levels reflect the subsequent drier-than-average dry season. Slowly declining groundwater levels reflect the subsequent drier-than-average dry season. While rainfall in January 2025 was above average (144 mm), this represented the first month to record more than 100 mm of rainfall since February 2023. The subsequent dry season was drier than historical averages, receiving less than 50mm of rain between April and November. Although total annual rainfall in 2025 (322 mm) was approximately consistent with the long-term average (since 2011), rainfall volumes were insufficient to result in significant recharge of the alluvial aquifer

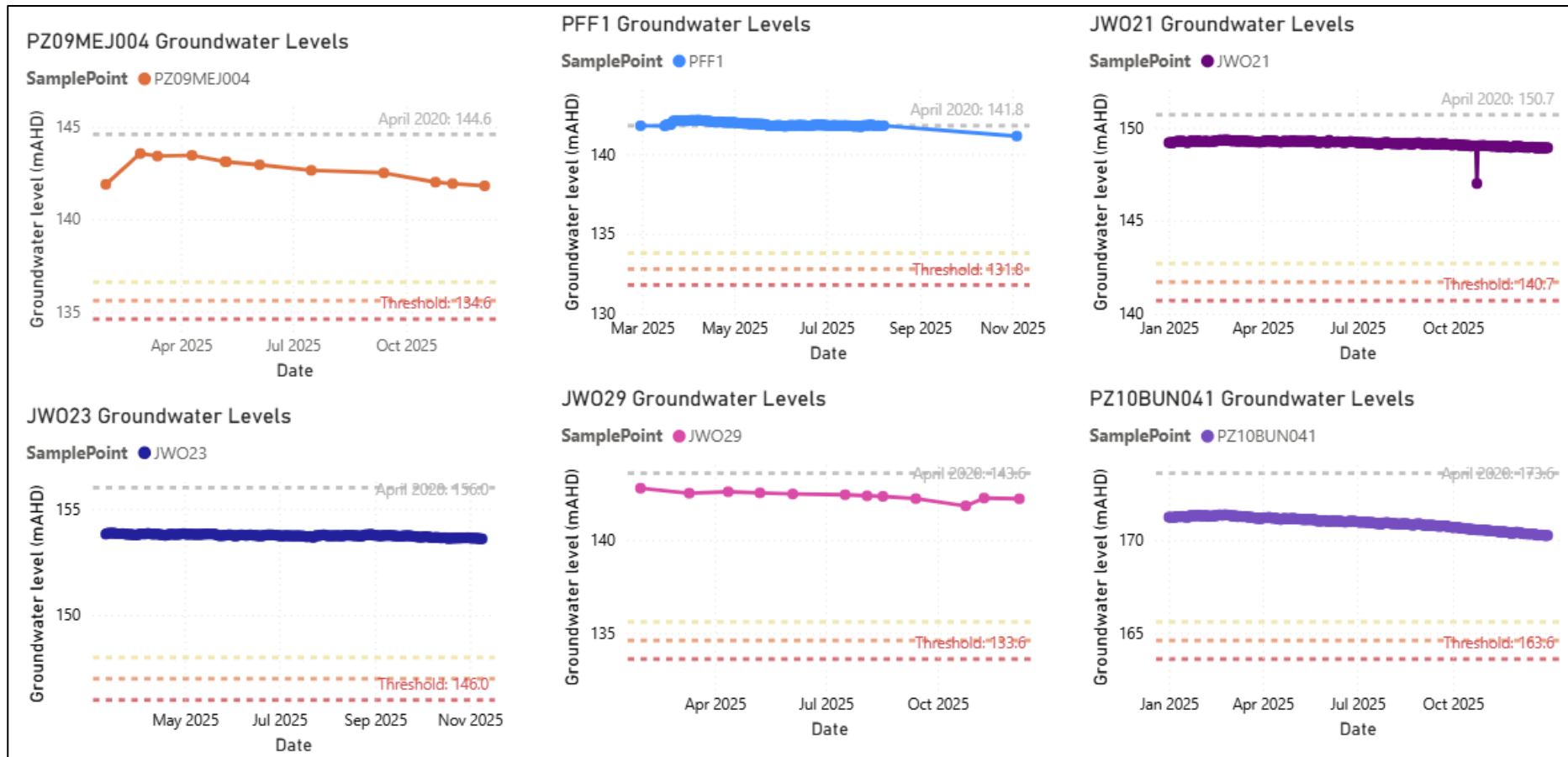


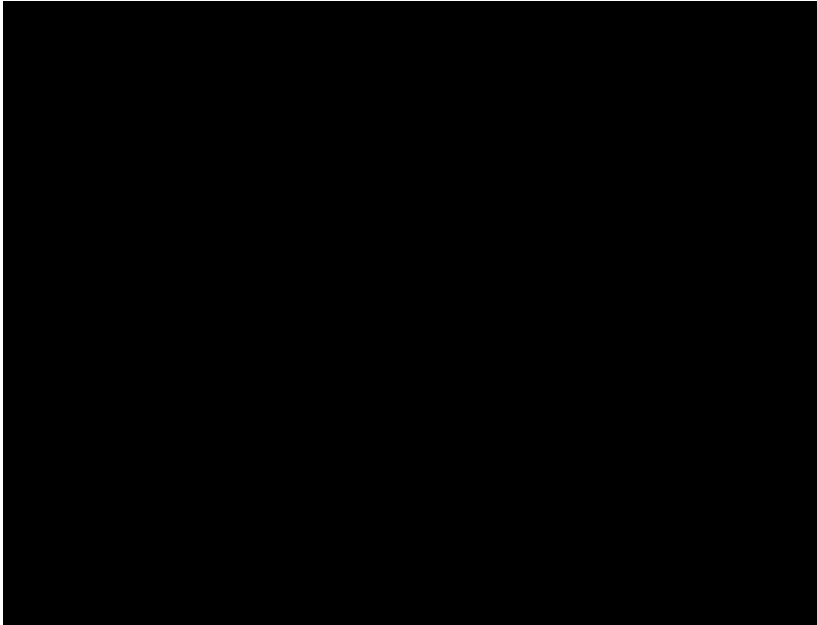
Figure 4: Groundwater levels at Jimmawurrada Creek bores compared to early warning, trigger, and threshold criteria

4 New environmental risks

There are no new environmental risks that have become apparent during the reporting period.

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.



6 Appendices

Appendix 1: Quarterly water quality results for the Robe River pools and comparison to Tier 1 and Tier 2 SSGVs

Exceedances of tier 1 SSGV are highlighted in yellow and exceedances of Tier 2 SSGV are highlighted in red. NS = Not sampled.

Table 7: Quarterly water quality results for RRU3 and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Date				14/03/2025	07/05/2025	16/06/2025	15/08/2025	06/11/2025	10/12/2025
TRH (C10-C40)	mg/L			0.12	0.12	0.12	0.12	0.12	Pool dry
Total Alkalinity (CaCO ₃)	mg/L			180	188	215	209	208	Pool dry
Electrical Conductivity	uS/cm			902	1010	982	932	898	Pool dry
Total Hardness (CaCO ₃)	mg/L			244	323	289	292	285	Pool dry
pH	N/A			7.99	8.01	7.73	7.5	8	Pool dry
TDS	mg/L			534	602	554	553	540	Pool dry
TSS	mg/L			<5	<5	<5	<5	8	Pool dry
Turbidity	NTU			0.3	9.3	1.6	2.8	7.6	Pool dry
Aluminium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	Pool dry
Arsenic	mg/L			<0.0002	0.0005	0.0003	0.0003	0.0007	Pool dry
Total Arsenic	mg/L			<0.0002	0.0006	0.0002	0.0003	0.0009	Pool dry
Barium	mg/L	0.0702	0.0803	0.064	0.0923	0.0905	0.0811	0.0799	Pool dry
Boron	mg/L			0.246	0.257	0.221	0.211	0.214	Pool dry
Cadmium	mg/L			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	Pool dry
Calcium	mg/L			49.4	66.3	59.3	58.4	58.1	Pool dry
Chloride	mg/L			144	180	170	140	147	Pool dry
Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Total Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Cobalt	mg/L			<0.0001	0.0008	0.0002	0.0003	0.0005	Pool dry
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	Pool dry
Iron	mg/L			0.006	0.139	0.053	0.202	0.067	Pool dry
Lead	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	Pool dry
Magnesium	mg/L			29.4	38.3	34.2	35.4	33.9	Pool dry
Manganese	mg/L			0.0365	0.135	0.0171	0.0221	0.0928	Pool dry
Mercury	mg/L			<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	Pool dry
Molybdenum	mg/L			0.0002	0.0002	0.0003	0.0003	0.0003	Pool dry
Nickel	mg/L			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	Pool dry
Ammonia Nitrogen	mg/L			0.03	0.08	0.2	0.07	0.17	Pool dry
Nitrate as N	mg/L	0.02	15	0.01	<0.01	0.01	<0.01	<0.01	Pool dry
Nitrite and N	mg/L			<0.01	<0.01	<0.01	<0.01	<0.01	Pool dry
Total Nitrogen	mg/L			0.1	0.2	0.3	0.1	0.3	Pool dry
Total Phosphorus	mg/L			0.03	0.02	0.01	0.02	0.03	Pool dry
Potassium	mg/L			8.5	8.7	7.6	7.8	7.6	Pool dry
Selenium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Total Selenium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Silicon (SiO2)	mg/L			42.7	44	41.7	41.3	40.8	Pool dry
Sodium	mg/L			70.5	78.1	73.6	73.8	71.5	Pool dry
Strontium	mg/L	1	2.5	0.242	0.306	0.329	0.281	0.272	Pool dry
Sulphate	mg/L			81	54	55	47	40	Pool dry
Sulphur	mg/L			29	20	20	18	15	Pool dry
Uranium	mg/L			0.00021	0.0002	0.00039	0.00032	0.00026	Pool dry
Vanadium	mg/L			0.0013	<0.0002	0.0005	0.0006	0.0004	Pool dry
Zinc	mg/L	0.00248	0.008	<0.001	<0.001	<0.001	<0.001	<0.001	Pool dry
Chlorophyll a	mg/L	0.01		<0.001	0.002	0.002	0.001	0.056	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Dissolved Organic Carbon	mg/L			2	2	2	1	1	Pool dry
Electrical Conductivity (field)	uS/cm	900	1000	930	1112	980	932	994	Pool dry
pH (field)	N/A	<6.5 OR >8	<6 OR >8.4	7.33	6.97	7.13	6.75	7.07	Pool dry
Temperature (field)	deg C			33.3	31.2	25.3	24	29.9	Pool dry
Turbidity (field)	NTU			1.77	NS	1.68	NS	7.02	Pool dry
Dissolved Oxygen (field)	mg/L			2.41	5.51	1.68	0.96	7.12	Pool dry

Table 8: Quarterly water quality results for RRU4 and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Date				14/03/2025	07/05/2025	16/06/2025	15/08/2025	16/11/2025
TRH (C10-C40)	mg/L			0.12	0.12	0.12	0.12	Pool dry
Total Alkalinity (CaCO3)	mg/L			152	174	177	186	Pool dry
Electrical Conductivity	uS/cm			800	850	814	842	Pool dry
Total Hardness (CaCO3)	mg/L			237	284	249	273	Pool dry
pH	N/A			7.8	8.09	7.96	7.64	Pool dry
TDS	mg/L			449	503	462	512	Pool dry
TSS	mg/L			<5	<5	<5	<5	Pool dry
Turbidity	NTU			1.3	1.1	2.9	0.4	Pool dry
Aluminium	mg/L			<0.005	<0.005	<0.005	<0.005	Pool dry
Arsenic	mg/L			<0.0002	<0.0002	0.0002	0.0002	Pool dry
Total Arsenic	mg/L			<0.0002	<0.0002	0.0003	0.0002	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Barium	mg/L	0.0702	0.0803	0.0525	0.0606	0.0618	0.0583	Pool dry
Boron	mg/L			0.183	0.242	0.198	0.205	Pool dry
Cadmium	mg/L			<0.00005	<0.00005	<0.00005	<0.00005	Pool dry
Calcium	mg/L			47.3	57.8	50.5	54	Pool dry
Chloride	mg/L			129	133	135	128	Pool dry
Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Total Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Cobalt	mg/L			<0.0001	<0.0001	0.0001	<0.0001	Pool dry
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	Pool dry
Iron	mg/L			0.168	0.032	0.085	0.01	Pool dry
Lead	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	Pool dry
Magnesium	mg/L			28.2	33.8	29.8	33.5	Pool dry
Manganese	mg/L			0.0146	0.0055	0.0211	0.003	Pool dry
Mercury	mg/L			<0.00004	<0.00004	<0.00004	<0.00004	Pool dry
Molybdenum	mg/L			0.0002	0.0003	0.0003	0.0004	Pool dry
Nickel	mg/L			<0.0005	<0.0005	<0.0005	<0.0005	Pool dry
Ammonia Nitrogen	mg/L			0.08	0.04	0.09	0.05	Pool dry
Nitrate as N	mg/L	0.03	15	0.13	0.15	0.02	0.1	Pool dry
Nitrite and N	mg/L			<0.01	0.01	<0.01	<0.01	Pool dry
Total Nitrogen	mg/L			0.3	0.4	0.3	0.3	Pool dry
Total Phosphorus	mg/L			0.02	0.02	0.01	0.02	Pool dry
Potassium	mg/L			7.6	8	7.1	7.8	Pool dry
Selenium	mg/L			0.0002	0.0005	<0.0002	0.0003	Pool dry
Total Selenium	mg/L			0.0004	0.0004	0.0002	0.0004	Pool dry
Silicon (SiO2)	mg/L			37	38.9	35.6	38.6	Pool dry
Sodium	mg/L			61.9	66.2	60.1	65	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Strontium	mg/L	1	2.5	0.222	0.258	0.272	0.26	Pool dry
Sulphate	mg/L			61	57	54	48	Pool dry
Sulphur	mg/L			23	21	18	18	Pool dry
Uranium	mg/L			0.00025	0.00044	0.00031	0.0005	Pool dry
Vanadium	mg/L			0.0011	0.0016	0.0004	0.0013	Pool dry
Zinc	mg/L	0.00248	0.008	<0.001	<0.001	0.005	<0.001	Pool dry
Chlorophyll a	mg/L	0.01		<0.001	0.006	0.005	<0.001	Pool dry
Dissolved Organic Carbon	mg/L			2	2	1	2	Pool dry
Electrical Conductivity (field)	uS/cm	900	1000	826	954	425.2	863	Pool dry
pH (field)	N/A	<6.5 OR >8	<6 OR >8.4	6.81	7.41	7.41	7.08	Pool dry
Temperature (field)	deg C			30.1	31.5	19.9	28	Pool dry
Turbidity (field)	NTU			2.37	NS	3.39	NS	Pool dry
Dissolved Oxygen (field)	mg/L			2.9	13	5.51	2.8	Pool dry

Table 9: Quarterly water quality results for Medawandy (RRU5) and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Date				15/03/2025	07/05/2025	08/08/2025	06/11/2025
TRH (C10-C40)	mg/L			0.12	0.12	0.12	0.12
Total Alkalinity (CaCO3)	mg/L			170	195	194	164
Electrical Conductivity	uS/cm			818	884	863	859
Total Hardness (CaCO3)	mg/L			227	290	277	282
pH	N/A			8	8.03	7.79	7.93
TDS	mg/L			486	516	512	520
TSS	mg/L			<5	<5	<5	<5

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Turbidity	NTU			2.5	3.7	0.6	1.9
Aluminium	mg/L			<0.005	<0.005	<0.005	<0.005
Arsenic	mg/L			0.0004	0.0003	<0.0002	0.0003
Total Arsenic	mg/L			0.0004	0.0003	<0.0002	0.0003
Barium	mg/L	0.0702	0.0803	0.0601	0.0646*	0.0592	0.0665
Boron	mg/L			0.204	0.238	0.202	0.195
Cadmium	mg/L			<0.00005	<0.00005	<0.00005	<0.00005
Calcium	mg/L			45.5	59.1	54	55.6
Chloride	mg/L			143	140	135	131
Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002
Total Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002
Cobalt	mg/L			0.0007	0.0002	<0.0001	<0.0001
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	<0.0005	<0.0005
Iron	mg/L			0.089	0.196	0.027	0.06
Lead	mg/L			<0.0001	<0.0001	<0.0001	<0.0001
Magnesium	mg/L			27.5	34.6	34.5	34.7
Manganese	mg/L			0.155	0.0543	0.0035	0.0273
Mercury	mg/L			<0.00004	<0.00004	<0.00004	<0.00004
Molybdenum	mg/L			0.0003	0.0002	0.0002	0.0003
Nickel	mg/L			0.0005	<0.0005	<0.0005	<0.0005
Ammonia Nitrogen	mg/L			0.09	0.06	0.12	0.13
Nitrate as N	mg/L	0.02	15	<0.01	<0.01	<0.01	0.02
Nitrite and N	mg/L			<0.01	<0.01	<0.01	<0.01
Total Nitrogen	mg/L			0.2	0.2	0.2	0.2
Total Phosphorus	mg/L			0.02	0.02	0.04	0.02
Potassium	mg/L			7.6	8.1	7.5	7.4
Selenium	mg/L			<0.0002	<0.0002	<0.0002	0.0003

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Total Selenium	mg/L			<0.0002	<0.0002	<0.0002	0.0004
Silicon (SiO2)	mg/L			40.9	45.1	39.8	38.2
Sodium	mg/L			63.9	68.8	66	65.3
Strontium	mg/L	1	2.5	0.226	0.273	0.269	0.283
Sulphate	mg/L			56	52	45	42
Sulphur	mg/L			20	19	17	15
Uranium	mg/L			0.00015	0.00025	0.00027	0.00034
Vanadium	mg/L			0.0002	0.0007	0.0012	0.0011
Zinc	mg/L	0.00248	0.008	0.002	<0.001	<0.001	<0.001
Chlorophyll a	mg/L	0.01		<0.001	0.004	0.001	0.01
Dissolved Organic Carbon	mg/L			2	2	1	2
Electrical Conductivity (field)	uS/cm	900	1000	853	900*	895	957
pH (field)	N/A	<6.5 OR >8	<6 OR >8.4	7.21	7.44	6.83	7.3
Temperature (field)	deg C			33.2	26.9	26.2	28.6
Turbidity (field)	NTU			3.05	2.07*	NS	2.28
Dissolved Oxygen (field)	mg/L			3.41	3.79	2.8	4.33

* Result from resample collected on 16 June 2025

Table 10: Quarterly water quality results for Robe River 3 and comparison to Tier 1 and Tier 2 SSGV

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4 & Q3 Resample	Q4 Resample
Date				No access	08/05/2025	11/08/2025	08/11/2025	09/12/2025
TRH (C10-C40)	mg/L			No access	0.12	0.12	0.12	No
Total Alkalinity (CaCO3)	mg/L			No access	182	175	183	N/A
Electrical Conductivity	uS/cm			No access	871	910	960	1020

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4 & Q3 Resample	Q4 Resample
Total Hardness (CaCO3)	mg/L			No access	259	287	303	N/A
pH	N/A			No access	8.09	8.03	8.16	N/A
TDS	mg/L			No access	500	536	564	N/A
TSS	mg/L			No access	7	13	35	N/A
Turbidity	NTU			No access	17	27	55	N/A
Aluminium	mg/L			No access	<0.005	<0.005	<0.005	<0.005
Arsenic	mg/L			No access	0.0003	0.0006	0.0008	0.0009
Total Arsenic	mg/L			No access	0.0005	0.0007	0.0012	0.0012
Barium	mg/L	0.0702	0.0803	No access	0.0499	0.0601	0.0826	0.0806
Boron	mg/L			No access	0.219	0.194	0.222	0.185
Cadmium	mg/L			No access	<0.00005	<0.00005	<0.00005	<0.00005
Calcium	mg/L			No access	51.2	56	58.8	N/A
Chloride	mg/L			No access	134	135	161	N/A
Chromium	mg/L			No access	<0.0002	<0.0002	<0.0002	<0.0002
Total Chromium	mg/L			No access	<0.0002	0.0005	0.0018	0.0012
Cobalt	mg/L			No access	0.0002	0.0003	0.0001	0.0002
Copper	mg/L	0.001	0.0014	No access	<0.0005	<0.0005	<0.0005	<0.0005
Iron	mg/L			No access	0.016	0.007	0.036	0.018
Lead	mg/L			No access	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium	mg/L			No access	31.8	35.7	38	N/A
Manganese	mg/L			No access	0.0227	0.0379	0.0592	0.0137
Mercury	mg/L			No access	<0.00004	<0.00004	<0.00004	N/A
Molybdenum	mg/L			No access	0.0004	0.0003	0.0007	0.0008
Nickel	mg/L			No access	<0.0005	<0.0005	<0.0005	<0.0005
Ammonia Nitrogen	mg/L			No access	0.19	0.04	0.08	N/A
Nitrate as N	mg/L	0.34	15	No access	0.07	<0.01	0.04	N/A

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4 & Q3 Resample	Q4 Resample
Nitrite and N	mg/L			No access	<0.01	<0.01	<0.01	N/A
Total Nitrogen	mg/L			No access	0.5	0.5	0.5	N/A
Total Phosphorus	mg/L			No access	0.03	0.04	0.05	N/A
Potassium	mg/L			No access	8.1	8.2	9.6	N/A
Selenium	mg/L			No access	0.0003	<0.0002	<0.0002	0.0005
Total Selenium	mg/L			No access	0.0003	<0.0002	0.0003	0.0005
Silicon (SiO2)	mg/L			No access	38.6	35.8	33.8	N/A
Sodium	mg/L			No access	67.1	70.6	72.2	N/A
Strontium	mg/L	1	2.5	No access	0.245	0.267	0.279	0.3
Sulphate	mg/L			No access	46	47	53	N/A
Sulphur	mg/L			No access	16	18	20	N/A
Uranium	mg/L			No access	0.00052	0.00056	0.0011	0.00113
Vanadium	mg/L			No access	0.001	0.0014	0.003	0.0047
Zinc	mg/L	0.00248	0.008	No access	<0.001	<0.001	<0.001	<0.001
Chlorophyll a	mg/L	0.01		No access	0.003	0.034	0.023	0.026
Dissolved Organic Carbon	mg/L			No access	4	4	3	N/A
Electrical Conductivity (field)	uS/cm	900	1000	No access	896*	911	1045	1140
pH (field)	N/A	<6.5 OR >8	<6 OR >8.4	No access	7.57	7.46	7.72	6.56
Temperature (field)	deg C			No access	25.4	26.2	26.2	32.9
Turbidity (field)	NTU			No access	15.97*	NS	52.95	47.53
Dissolved Oxygen (field)	mg/L			No access	6.28	6.91	4.76	6.69

* Result confirmed via resample 16 June 2025

Table 11: Quarterly water quality results for Japanese Pool and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Date				14/03/2025	08/05/2025	13/08/2025	06/11/2025
TRH (C10-C40)	mg/L			0.12	0.12	Pool dry	Pool dry
Total Alkalinity (CaCO3)	mg/L			184	194	Pool dry	Pool dry
Electrical Conductivity	uS/cm			976	982	Pool dry	Pool dry
Total Hardness (CaCO3)	mg/L			283	322	Pool dry	Pool dry
pH	N/A			8.29	8.11	Pool dry	Pool dry
TDS	mg/L			602	574	Pool dry	Pool dry
TSS	mg/L			<5	<5	Pool dry	Pool dry
Turbidity	NTU			1	0.6	Pool dry	Pool dry
Aluminium	mg/L			<0.005	<0.005	Pool dry	Pool dry
Arsenic	mg/L			0.0003	0.0003	Pool dry	Pool dry
Total Arsenic	mg/L			0.0003	0.0003	Pool dry	Pool dry
Barium	mg/L	0.0702	0.0803	0.0478	0.0414	Pool dry	Pool dry
Boron	mg/L			0.232	0.273	Pool dry	Pool dry
Cadmium	mg/L			<0.00005	<0.00005	Pool dry	Pool dry
Calcium	mg/L			52.5	59.3	Pool dry	Pool dry
Chloride	mg/L			135	156	Pool dry	Pool dry
Chromium	mg/L			<0.0002	<0.0002	Pool dry	Pool dry
Total Chromium	mg/L			0.0008	<0.0002	Pool dry	Pool dry
Cobalt	mg/L			<0.0001	<0.0001	Pool dry	Pool dry
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	Pool dry	Pool dry
Iron	mg/L			0.039	0.009	Pool dry	Pool dry
Lead	mg/L			<0.0001	<0.0001	Pool dry	Pool dry
Magnesium	mg/L			36.9	42.3	Pool dry	Pool dry
Manganese	mg/L			0.0074	0.0007	Pool dry	Pool dry
Mercury	mg/L			<0.00004	<0.00004	Pool dry	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Molybdenum	mg/L			0.0004	0.0004	Pool dry	Pool dry
Nickel	mg/L			<0.0005	<0.0005	Pool dry	Pool dry
Ammonia Nitrogen	mg/L			0.06	0.03	Pool dry	Pool dry
Nitrate as N	mg/L	9.42	15	2.29	2.14	Pool dry	Pool dry
Nitrite and N	mg/L			0.08	0.02	Pool dry	Pool dry
Total Nitrogen	mg/L			2.9	3.1	Pool dry	Pool dry
Total Phosphorus	mg/L			<0.01	0.02	Pool dry	Pool dry
Potassium	mg/L			9.1	9.3	Pool dry	Pool dry
Selenium	mg/L			0.0016	0.0016	Pool dry	Pool dry
Total Selenium	mg/L			0.0017	0.0014	Pool dry	Pool dry
Silicon (SiO2)	mg/L			47.9	51.9	Pool dry	Pool dry
Sodium	mg/L			74.2	81.8	Pool dry	Pool dry
Strontium	mg/L	1	2.5	0.267	0.288	Pool dry	Pool dry
Sulphate	mg/L			77	72	Pool dry	Pool dry
Sulphur	mg/L			27	26	Pool dry	Pool dry
Uranium	mg/L			0.0004	0.00069	Pool dry	Pool dry
Vanadium	mg/L			0.0017	0.0021	Pool dry	Pool dry
Zinc	mg/L	0.00248	0.008	0.001	<0.001	Pool dry	Pool dry
Chlorophyll a	mg/L	0.01		0.006	0.009	Pool dry	Pool dry
Dissolved Organic Carbon	mg/L			2	2	Pool dry	Pool dry
Electrical Conductivity (field)	uS/cm	1100	1300	1013	1067*	Pool dry	Pool dry
pH (field)	N/A	<6.5 OR >8	<6 OR >8.3	7.15	7.54	Pool dry	Pool dry
Temperature (field)	deg C			29.9	26.1	Pool dry	Pool dry
Turbidity (field)	NTU			2.95	NS	Pool dry	Pool dry
Dissolved Oxygen (field)	mg/L			3.97	4.63	Pool dry	Pool dry

* Result confirmed via resample 16 June 2025

Table 12: Quarterly water quality results for Martangkuna (RRD1) and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Date				01/03/2025	11/05/2025	15/08/2025	06/11/2025
TRH (C10-C40)	mg/L			0.12	Pool dry	Pool dry	Pool dry
Total Alkalinity (CaCO3)	mg/L			242	Pool dry	Pool dry	Pool dry
Electrical Conductivity	uS/cm			1530	Pool dry	Pool dry	Pool dry
Total Hardness (CaCO3)	mg/L			481	Pool dry	Pool dry	Pool dry
pH	N/A			8.08	Pool dry	Pool dry	Pool dry
TDS	mg/L			964	Pool dry	Pool dry	Pool dry
TSS	mg/L			<5	Pool dry	Pool dry	Pool dry
Turbidity	NTU			0.2	Pool dry	Pool dry	Pool dry
Aluminium	mg/L			<0.005	Pool dry	Pool dry	Pool dry
Arsenic	mg/L			0.0003	Pool dry	Pool dry	Pool dry
Total Arsenic	mg/L			0.0003	Pool dry	Pool dry	Pool dry
Barium	mg/L	0.0702	0.0803	0.0875	Pool dry	Pool dry	Pool dry
Boron	mg/L			0.305	Pool dry	Pool dry	Pool dry
Cadmium	mg/L			<0.00005	Pool dry	Pool dry	Pool dry
Calcium	mg/L			90.3	Pool dry	Pool dry	Pool dry
Chloride	mg/L			296	Pool dry	Pool dry	Pool dry
Chromium	mg/L			<0.0002	Pool dry	Pool dry	Pool dry
Total Chromium	mg/L			<0.0002	Pool dry	Pool dry	Pool dry
Cobalt	mg/L			<0.0001	Pool dry	Pool dry	Pool dry
Copper	mg/L	0.001	0.0014	<0.0005	Pool dry	Pool dry	Pool dry
Iron	mg/L			0.021	Pool dry	Pool dry	Pool dry
Lead	mg/L			<0.0001	Pool dry	Pool dry	Pool dry
Magnesium	mg/L			62	Pool dry	Pool dry	Pool dry
Manganese	mg/L			0.0056	Pool dry	Pool dry	Pool dry
Mercury	mg/L			<0.00004	Pool dry	Pool dry	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Molybdenum	mg/L			0.0002	Pool dry	Pool dry	Pool dry
Nickel	mg/L			<0.0005	Pool dry	Pool dry	Pool dry
Ammonia Nitrogen	mg/L			0.1	Pool dry	Pool dry	Pool dry
Nitrate as N	mg/L	5.2	15	0.51	Pool dry	Pool dry	Pool dry
Nitrite and N	mg/L			<0.01	Pool dry	Pool dry	Pool dry
Total Nitrogen	mg/L			0.7	Pool dry	Pool dry	Pool dry
Total Phosphorus	mg/L			0.02	Pool dry	Pool dry	Pool dry
Potassium	mg/L			12.2	Pool dry	Pool dry	Pool dry
Selenium	mg/L			0.0012	Pool dry	Pool dry	Pool dry
Total Selenium	mg/L			0.0012	Pool dry	Pool dry	Pool dry
Silicon (SiO2)	mg/L			47.4	Pool dry	Pool dry	Pool dry
Sodium	mg/L			97	Pool dry	Pool dry	Pool dry
Strontium	mg/L	1	2.5	0.458	Pool dry	Pool dry	Pool dry
Sulphate	mg/L			183	Pool dry	Pool dry	Pool dry
Sulphur	mg/L			61	Pool dry	Pool dry	Pool dry
Uranium	mg/L			0.00059	Pool dry	Pool dry	Pool dry
Vanadium	mg/L			0.0015	Pool dry	Pool dry	Pool dry
Zinc	mg/L	0.00248	0.008	0.003	Pool dry	Pool dry	Pool dry
Chlorophyll a	mg/L	0.01		<0.001	Pool dry	Pool dry	Pool dry
Dissolved Organic Carbon	mg/L			2	Pool dry	Pool dry	Pool dry
Electrical Conductivity (field)	uS/cm	1100	1300	1586	Pool dry	Pool dry	Pool dry
pH (field)	N/A	<6.5 OR >8	<6 OR >8.3	7.14	Pool dry	Pool dry	Pool dry
Temperature (field)	deg C			31.7	Pool dry	Pool dry	Pool dry
Turbidity (field)	NTU			1.37	Pool dry	Pool dry	Pool dry
Dissolved Oxygen (field)	mg/L			2.56	Pool dry	Pool dry	Pool dry

Table 13: Quarterly water quality results for Paturarr (RRD2) and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Date				14/03/2025	08/05/2025	24/06/2025	15/08/2025	6/11/2025
TRH (C10-C40)	mg/L			0.12	0.12	0.12	0.12	Pool dry
Total Alkalinity (CaCO3)	mg/L			267	262	300	225	Pool dry
Electrical Conductivity	uS/cm			1540	1380	1410	1260	Pool dry
Total Hardness (CaCO3)	mg/L			482	491	442	419	Pool dry
pH	N/A			8.04	8.18	8.36	8.26	Pool dry
TDS	mg/L			968	853	804	754	Pool dry
TSS	mg/L			<5	<5	<5	<5	Pool dry
Turbidity	NTU			1.3	1.7	1	1.7	Pool dry
Aluminium	mg/L			<0.005	<0.005	<0.005	<0.005	Pool dry
Arsenic	mg/L			0.0004	0.0004	0.0003	0.0005	Pool dry
Total Arsenic	mg/L			0.0004	0.0004	0.0003	0.0005	Pool dry
Barium	mg/L	0.0702	0.0803	0.0817	0.0725	0.0509	0.0431	Pool dry
Boron	mg/L			0.345	0.354	0.306	0.254	Pool dry
Cadmium	mg/L			<0.00005	<0.00005	<0.00005	<0.00005	Pool dry
Calcium	mg/L			91.3	92.8	81.2	69.8	Pool dry
Chloride	mg/L			256	244	218	204	Pool dry
Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Total Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Cobalt	mg/L			0.0001	<0.0001	<0.0001	0.0001	Pool dry
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	Pool dry
Iron	mg/L			0.224	0.031	0.034	0.034	Pool dry
Lead	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	Pool dry
Magnesium	mg/L			61.8	63	58.2	59.4	Pool dry
Manganese	mg/L			0.0299	0.0092	0.009	0.0165	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Mercury	mg/L			<0.00004	<0.00004	<0.00004	<0.00004	Pool dry
Molybdenum	mg/L			0.0003	0.0002	0.0002	0.0003	Pool dry
Nickel	mg/L			<0.0005	<0.0005	<0.0005	<0.0005	Pool dry
Ammonia Nitrogen	mg/L			0.08	0.08	0.03	0.08	Pool dry
Nitrate as N	mg/L	2.8	15	0.33	0.1	0.4	<0.01	Pool dry
Nitrite and N	mg/L			0.02	0.01	<0.01	<0.01	Pool dry
Total Nitrogen	mg/L			0.6	0.3	0.4	0.4	Pool dry
Total Phosphorus	mg/L			0.01	0.02	<0.01	0.02	Pool dry
Potassium	mg/L			12.7	12.8	11.5	11.4	Pool dry
Selenium	mg/L			0.0012	0.0008	0.0015	0.001	Pool dry
Total Selenium	mg/L			0.0011	0.0008	0.0013	0.0011	Pool dry
Silicon (SiO ₂)	mg/L			55.4	58.1	51.9	47.3	Pool dry
Sodium	mg/L			100	107	92.7	95.7	Pool dry
Strontium	mg/L	1	2.5	0.456	0.451	0.426	0.392	Pool dry
Sulphate	mg/L			173	118	112	99	Pool dry
Sulphur	mg/L			58	45	37	38	Pool dry
Uranium	mg/L			0.00062	0.00061	0.00068	0.00067	Pool dry
Vanadium	mg/L			0.0013	0.0011	0.0014	0.0022	Pool dry
Zinc	mg/L	0.00248	0.008	<0.001	<0.001	<0.001	<0.001	Pool dry
Chlorophyll a	mg/L	0.01		<0.001	0.001	0.001	0.002	Pool dry
Dissolved Organic Carbon	mg/L			3	2	3	4	Pool dry
Electrical Conductivity (field)	uS/cm	1100	1300	1579	1533	1340	1267	Pool dry
pH (field)	N/A	<6.5 OR >8	<6 OR >8.3	7.24	7.47	6.93	8.12	Pool dry
Temperature (field)	deg C			31.9	26.9	18.1	29.2	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Turbidity (field)	NTU			1.57	NS	1.44	NS	Pool dry
Dissolved Oxygen (field)	mg/L			3.04	5.05	5.06	16.9	Pool dry

Table 14: Quarterly water quality results for Watpari and comparison to Tier 1 and Tier 2 SSGV

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Date				14/03/2025	08/05/2025	24/06/2025	15/08/2025	6/11/2025
TRH (C10-C40)	mg/L			0.12	0.12	Pool dry	0.12	Pool dry
Total Alkalinity (CaCO3)	mg/L			297	285	Pool dry	295	Pool dry
Electrical Conductivity	uS/cm			2250	1520	Pool dry	1450	Pool dry
Total Hardness (CaCO3)	mg/L			768	544	Pool dry	495	Pool dry
pH	N/A			8.04	8	Pool dry	7.87	Pool dry
TDS	mg/L			1550	946	Pool dry	888	Pool dry
TSS	mg/L			<5	<5	Pool dry	<5	Pool dry
Turbidity	NTU			0.6	1.2	Pool dry	5.3	Pool dry
Aluminium	mg/L			<0.005	<0.005	Pool dry	<0.005	Pool dry
Arsenic	mg/L			0.0005	0.0004	Pool dry	0.0004	Pool dry
Total Arsenic	mg/L			0.0004	0.0004	Pool dry	0.0005	Pool dry
Barium	mg/L	0.0702	0.0803	0.13	0.0911	Pool dry	0.0894	Pool dry
Boron	mg/L			0.368	0.385	Pool dry	0.311	Pool dry
Cadmium	mg/L			<0.00005	<0.00005	Pool dry	<0.00005	Pool dry
Calcium	mg/L			145	104	Pool dry	91.8	Pool dry
Chloride	mg/L			376	276	Pool dry	221	Pool dry
Chromium	mg/L			<0.0002	<0.0002	Pool dry	<0.0002	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Total Chromium	mg/L			<0.0002	<0.0002	Pool dry	<0.0002	Pool dry
Cobalt	mg/L			0.0003	0.0002	Pool dry	0.0002	Pool dry
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	Pool dry	<0.0005	Pool dry
Iron	mg/L			0.104	0.096	Pool dry	0.184	Pool dry
Lead	mg/L			<0.0001	<0.0001	Pool dry	<0.0001	Pool dry
Magnesium	mg/L			98.5	69.1	Pool dry	64.6	Pool dry
Manganese	mg/L			0.0689	0.056	Pool dry	0.115	Pool dry
Mercury	mg/L			<0.00004	<0.00004	Pool dry	<0.00004	Pool dry
Molybdenum	mg/L			0.0003	0.0002	Pool dry	0.0003	Pool dry
Nickel	mg/L			<0.0005	<0.0005	Pool dry	<0.0005	Pool dry
Ammonia Nitrogen	mg/L			0.04	0.02	Pool dry	0.11	Pool dry
Nitrate as N	mg/L	3.5	15	0.37	0.06	Pool dry	0.04	Pool dry
Nitrite and N	mg/L			0.01	<0.01	Pool dry	<0.01	Pool dry
Total Nitrogen	mg/L			0.7	0.4	Pool dry	0.3	Pool dry
Total Phosphorus	mg/L			0.04	<0.01	Pool dry	0.02	Pool dry
Potassium	mg/L			16	13.4	Pool dry	12.7	Pool dry
Selenium	mg/L			0.0029	0.0005	Pool dry	0.0003	Pool dry
Total Selenium	mg/L			0.003	0.0004	Pool dry	<0.0002	Pool dry
Silicon (SiO2)	mg/L			50.5	57.5	Pool dry	54.4	Pool dry
Sodium	mg/L			128	116	Pool dry	107	Pool dry
Strontium	mg/L	1	2.5	0.704	0.503	Pool dry	0.503	Pool dry
Sulphate	mg/L			328	140	Pool dry	104	Pool dry
Sulphur	mg/L			105	52	Pool dry	42	Pool dry
Uranium	mg/L			0.00191	0.00075	Pool dry	0.00047	Pool dry
Vanadium	mg/L			0.0012	0.0012	Pool dry	0.0004	Pool dry
Zinc	mg/L	0.00248	0.008	0.002	<0.001	Pool dry	<0.001	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Chlorophyll a	mg/L	0.01		<0.001	0.017	Pool dry	0.002	Pool dry
Dissolved Organic Carbon	mg/L			5	2	Pool dry	3	Pool dry
Electrical Conductivity (field)	uS/cm	1100	1300	1024	1684	Pool dry	1045	Pool dry
pH (field)	N/A	<6.5 OR >8	<6 OR >8.3	7.14	7.24	Pool dry	7.42	Pool dry
Temperature (field)	deg C			31.7	28.1	Pool dry	23.9	Pool dry
Turbidity (field)	NTU			1.37	NS	Pool dry	NS	Pool dry
Dissolved Oxygen (field)	mg/L			2.56	3.21	Pool dry	3.53	Pool dry

Table 15: Quarterly water quality results for RRD4 and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Date				14/03/2025	08/05/2025	24/06/2025	15/08/2025	6/11/2025	09/12/2025
TRH (C10-C40)	mg/L			0.12	0.12	0.12	0.12	0.12	N/A
Total Alkalinity (CaCO3)	mg/L			287	290	315	297	303	N/A
Electrical Conductivity	uS/cm			1690	1740	1600	1430	1250	1200
Total Hardness (CaCO3)	mg/L			540	528	523	490	421	N/A
pH	N/A			8.21	8.03	8.06	7.89	8.1	N/A
TDS	mg/L			1080	1100	964	869	758	N/A
TSS	mg/L			<5	<5	<5	<5	<5	N/A
Turbidity	NTU			0.6	0.6	0.3	0.2	0.5	N/A
Aluminium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	N/A

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Arsenic	mg/L			0.0005	0.0004	0.0005	0.0004	0.0005	N/A
Total Arsenic	mg/L			0.0004	0.0004	0.0005	0.0004	0.0006	N/A
Barium	mg/L	0.0702	0.0803	0.0911	0.0882	0.0792	0.068	0.0643	N/A
Boron	mg/L			0.311	0.35	0.32	0.3	0.294	N/A
Cadmium	mg/L			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A
Calcium	mg/L			101	94.5	95.8	88.3	74.3	N/A
Chloride	mg/L			316	307	288	243	200	N/A
Chromium	mg/L			<0.0002	0.0002	<0.0002	<0.0002	<0.0002	N/A
Total Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	N/A
Cobalt	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	N/A
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	N/A
Iron	mg/L			0.014	0.011	0.008	<0.002	0.013	N/A
Lead	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	N/A
Magnesium	mg/L			69.8	71	69	65.4	57.1	N/A
Manganese	mg/L			0.0057	0.0009	<0.0005	<0.0005	0.0005	N/A
Mercury	mg/L			<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	N/A
Molybdenum	mg/L			0.0003	0.0003	0.0004	0.0004	0.0004	N/A
Nickel	mg/L			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	N/A
Ammonia Nitrogen	mg/L			0.09	0.03	0.04	<0.01	0.06	N/A
Nitrate as N	mg/L	1.6	15	0.47	0.1	0.11	0.48	0.29	N/A
Nitrite and N	mg/L			<0.01	<0.01	<0.01	<0.01	<0.01	N/A
Total Nitrogen	mg/L			0.7	0.4	0.2	0.7	0.6	N/A
Total Phosphorus	mg/L			0.02	0.03	<0.01	0.01	0.01	N/A
Potassium	mg/L			13.1	12.9	11.8	11.3	10.2	N/A
Selenium	mg/L			0.002	0.0008	0.001	0.0013	0.0014	N/A
Total Selenium	mg/L			0.0021	0.0008	0.001	0.0014	0.0016	N/A

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Silicon (SiO ₂)	mg/L			52	51.3	48	49.4	49.6	N/A
Sodium	mg/L			103	111	117	109	90	N/A
Strontium	mg/L	1	2.5	0.505	0.522	0.558	0.443	0.392	N/A
Sulphate	mg/L			168	182	161	118	91	N/A
Sulphur	mg/L			58	61	54	42	31	N/A
Uranium	mg/L			0.00089	0.00134	0.00131	0.00114	0.00094	N/A
Vanadium	mg/L			0.0023	0.0027	0.0026	0.0023	0.003	N/A
Zinc	mg/L	0.00248	0.008	<0.001	<0.001	0.001	<0.001	<0.001	N/A
Chlorophyll a	mg/L	0.01		0.002	<0.001	0.002	<0.001	0.015	0.004
Dissolved Organic Carbon	mg/L			3	2	3	1	2	N/A
Electrical Conductivity (field)	uS/cm	1300	1500	1756	1891	768	1663	1528	1326
pH (field)	N/A	<6.5 OR >8	<6 OR >8.2	7.56	7.43	7.19	7.47	7.42	7.66
Temperature (field)	deg C			33.1	28.1	24.8	27.2	26	31.4
Turbidity (field)	NTU			3.99	NS	1.55	NS	1.32	9.02
Dissolved Oxygen (field)	mg/L			4.49	5.2	6.35	4.03	4.03	6.98

Table 16: Quarterly water quality results for Yeera Bluff and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Date				14/03/2025	08/05/2025	24/06/2025	15/08/2025	6/11/2025	09/12/2025
TRH (C10-C40)	mg/L			0.12	0.12	0.12	0.12	0.12	N/A

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Total Alkalinity (CaCO ₃)	mg/L			291	320	377	368	334	N/A
Electrical Conductivity	uS/cm			1680	1960	1820	1650	1430	1340
Total Hardness (CaCO ₃)	mg/L			521	627	602	599	491	N/A
pH	N/A			8.09	7.88	7.83	7.83	8.06	N/A
TDS	mg/L			1020	1200	1080	1010	842	N/A
TSS	mg/L			<5	<5	<5	<5	<5	N/A
Turbidity	NTU			0.4	1	0.4	1.4	0.7	N/A
Aluminium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic	mg/L			0.0004	0.0003	0.0004	0.0003	0.0005	0.0004
Total Arsenic	mg/L			0.0003	0.0004	0.0003	0.0004	0.0005	0.0004
Barium	mg/L	0.0702	0.0803	0.0821	0.102	0.0879	0.0802	0.0774	0.0602
Boron	mg/L			0.336	0.397	0.362	0.334	0.353	0.289
Cadmium	mg/L			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Calcium	mg/L			96.3	111	109	104	83	N/A
Chloride	mg/L			323	376	330	273	225	N/A
Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Total Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Cobalt	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Iron	mg/L			0.074	0.042	0.009	0.018	0.024	0.024
Lead	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium	mg/L			68.2	84.9	80.2	82.4	68.8	N/A
Manganese	mg/L			0.0045	0.011	<0.0005	0.01	0.0062	0.0058
Mercury	mg/L			<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	N/A

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Molybdenum	mg/L			0.0003	0.0003	0.0004	0.0004	0.0004	0.0003
Nickel	mg/L			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Ammonia Nitrogen	mg/L			0.05	0.05	0.03	0.04	0.04	N/A
Nitrate as N	mg/L	0.27	15	0.01	<0.01	0.01	0.03	0.1	N/A
Nitrite and N	mg/L			<0.01	<0.01	<0.01	<0.01	<0.01	N/A
Total Nitrogen	mg/L			0.2	0.2	<0.1	0.4	0.3	N/A
Total Phosphorus	mg/L			0.02	0.03	<0.01	<0.01	0.02	N/A
Potassium	mg/L			12.5	14.3	12.6	12.6	10.8	N/A
Selenium	mg/L			0.0003	0.0003	<0.0002	0.0002	0.0018	0.0035
Total Selenium	mg/L			0.0003	0.0002	<0.0002	0.0002	0.0019	0.0033
Silicon (SiO2)	mg/L			47.1	51	49.5	47.2	45.3	N/A
Sodium	mg/L			107	123	131	131	98.3	N/A
Strontium	mg/L	1	2.5	0.48	0.587	0.665	0.53	0.456	0.421
Sulphate	mg/L			174	211	174	128	86	N/A
Sulphur	mg/L			58	69	58	45	31	N/A
Uranium	mg/L			0.00107	0.00146	0.00161	0.00176	0.00151	0.00118
Vanadium	mg/L			0.0013	0.0016	0.0015	0.0014	0.0021	0.0019
Zinc	mg/L	0.00248	0.008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorophyll a	mg/L	0.01		0.002	0.027	<0.001	0.008	0.025	0.09
Dissolved Organic Carbon	mg/L			3	2	3	2	2	N/A
Electrical Conductivity (field)	uS/cm	1300	1500	1715	2090	1829	1663	1338	1489
pH (field)	N/A	<6.5 OR >8	<6 OR >8.2	7.49	7.2	7.15	7.47	7.74	7.7
Temperature (field)	deg C			30.3	29.9	24.6	27.2	27	32.7
Turbidity (field)	NTU			0.66	NS	0.59	NS	1.43	11.88

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample	Q4 Resample
Dissolved Oxygen (field)	mg/L			2.8	6.24	4.51	4.03	5.41	13.74

Table 17: Quarterly water quality results for Nyirynmaru and comparison to Tier 1 and Tier 2 SSGV

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Date				14/03/2025	10/05/2025	16/06/2025	15/08/2025	Pool dry
TRH (C10-C40)	mg/L			0.12	0.12	0.12	0.12	Pool dry
Total Alkalinity (CaCO3)	mg/L			274	270	295	284	Pool dry
Electrical Conductivity	uS/cm			1680	2010	2010	1840	Pool dry
Total Hardness (CaCO3)	mg/L			535	628	650	638	Pool dry
pH	N/A			8.26	8.1	7.99	8.06	Pool dry
TDS	mg/L			1030	1280	1180	1170	Pool dry
TSS	mg/L			<5	<5	<5	<5	Pool dry
Turbidity	NTU			1	1	1.3	2.1	Pool dry
Aluminium	mg/L			<0.005	<0.005	<0.005	<0.005	Pool dry
Arsenic	mg/L			0.0007	0.0004	0.0004	0.0004	Pool dry
Total Arsenic	mg/L			0.0005	0.0005	0.0004	0.0005	Pool dry
Barium	mg/L	0.0702	0.0803	0.0896	0.105	0.106	0.0929	Pool dry
Boron	mg/L			0.332	0.397	0.357	0.336	Pool dry
Cadmium	mg/L			<0.00005	0.00005	0.00005	0.00005	Pool dry
Calcium	mg/L			100	112	119	112	Pool dry
Chloride	mg/L			314	380	391	346	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Total Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Cobalt	mg/L			0.0002	<0.0001	<0.0001	<0.0001	Pool dry
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	Pool dry
Iron	mg/L			0.198	0.013	0.015	0.021	Pool dry
Lead	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	Pool dry
Magnesium	mg/L			69.4	84.5	85.6	87	Pool dry
Manganese	mg/L			0.0732	0.003	0.0026	0.0037	Pool dry
Mercury	mg/L			<0.00004	<0.00004	<0.00004	<0.00004	Pool dry
Molybdenum	mg/L			0.0004	0.0003	0.0003	0.0003	Pool dry
Nickel	mg/L			<0.0005	<0.0005	<0.0005	<0.0005	Pool dry
Ammonia Nitrogen	mg/L			0.02	0.02	0.08	0.08	Pool dry
Nitrate as N	mg/L	0.16	15	0.01	0.03	0.01	<0.01	Pool dry
Nitrite and N	mg/L			<0.01	<0.01	<0.01	<0.01	Pool dry
Total Nitrogen	mg/L			0.1	0.1	0.2	0.3	Pool dry
Total Phosphorus	mg/L			0.02	0.03	0.01	0.04	Pool dry
Potassium	mg/L			13.6	15.1	14	14	Pool dry
Selenium	mg/L			0.0003	0.0002	0.0005	0.0007	Pool dry
Total Selenium	mg/L			0.0004	0.0002	0.0004	0.0006	Pool dry
Silicon (SiO2)	mg/L			46.3	49.1	47.1	42.2	Pool dry
Sodium	mg/L			110	125	140	141	Pool dry
Strontium	mg/L	1	2.5	0.5	0.597	0.72	0.609	Pool dry
Sulphate	mg/L			180	233	231	190	Pool dry
Sulphur	mg/L			60	77	78	68	Pool dry
Uranium	mg/L			0.00118	0.00102	0.0011	0.00126	Pool dry
Vanadium	mg/L			0.0022	0.0025	0.002	0.0031	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q2 Resample	Q3	Q4 & Q3 Resample
Zinc	mg/L	0.00248	0.008	<0.001	<0.001	<0.001	<0.001	Pool dry
Chlorophyll a	mg/L	0.01		<0.001	0.003	0.005	0.014	Pool dry
Dissolved Organic Carbon	mg/L			3	2	2	2	Pool dry
Electrical Conductivity (field)	uS/cm	1400	1600	1742	2140	1989	1978	Pool dry
pH (field)	N/A	<6.5 OR >8	<6 OR >8.2	7.67	7.49	7.51	7.49	Pool dry
Temperature (field)	deg C			31.8	30.3	25.3	26	Pool dry
Turbidity (field)	NTU			1.87	NS	2.21	NS	Pool dry
Dissolved Oxygen (field)	mg/L			3.41	6.37	6.73	9.68	Pool dry

Table 18: Quarterly water quality results for RRD6 and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4	Q4 Resample
Date				02/03/2025	10/05/2025	09/08/2025	07/11/2025	Pool dry
TRH (C10-C40)	mg/L			0.12	0.12	0.12	0.17	Pool dry
Total Alkalinity (CaCO3)	mg/L			230	242	297	175	Pool dry
Electrical Conductivity	uS/cm			1040	1110	1260	1890	Pool dry
Total Hardness (CaCO3)	mg/L			298	309	416	427	Pool dry
pH	N/A			8.44	8.06	8.25	7.6	Pool dry
TDS	mg/L			595	642	730	1200	Pool dry
TSS	mg/L			<5	<5	15	352	Pool dry
Turbidity	NTU			1.1	4.3	12	190	Pool dry
Aluminium	mg/L			0.006	<0.005	0.007	0.006	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4	Q4 Resample
Arsenic	mg/L			0.0006	0.0006	0.0011	0.0048	Pool dry
Total Arsenic	mg/L			0.0005	0.0008	0.0013	0.0101	Pool dry
Barium	mg/L	0.0702	0.0803	0.0481	0.0546	0.0551	0.0888	Pool dry
Boron	mg/L			0.278	0.312	0.326	0.566	Pool dry
Cadmium	mg/L			<0.00005	<0.00005	<0.00005	<0.00005	Pool dry
Calcium	mg/L			53.9	56.6	76.4	53.5	Pool dry
Chloride	mg/L			179	160	192	416	Pool dry
Chromium	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	Pool dry
Total Chromium	mg/L			<0.0002	0.0009	0.0003	0.006	Pool dry
Cobalt	mg/L			<0.0001	<0.0001	0.0001	0.0005	Pool dry
Copper	mg/L	0.001	0.0014	<0.0005	<0.0005	<0.0005	0.0008	Pool dry
Iron	mg/L			0.192	0.043	0.054	0.185	Pool dry
Lead	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	Pool dry
Magnesium	mg/L			39.7	40.8	54.7	71.2	Pool dry
Manganese	mg/L			0.0048	0.0172	0.002	0.0093	Pool dry
Mercury	mg/L			<0.00004	<0.00004	<0.00004	<0.00004	Pool dry
Molybdenum	mg/L			0.0005	0.0005	0.0008	0.0091	Pool dry
Nickel	mg/L			<0.0005	<0.0005	<0.0005	<0.0005	Pool dry
Ammonia Nitrogen	mg/L			0.1	0.03	0.11	0.07	Pool dry
Nitrate as N	mg/L	0.01	15	<0.01	<0.01*	<0.01	0.01	Pool dry
Nitrite and N	mg/L			<0.01	<0.01	<0.01	<0.01	Pool dry
Total Nitrogen	mg/L			0.2	0.2	1.1	12.6	Pool dry
Total Phosphorus	mg/L			0.01	0.02	0.07	0.82	Pool dry
Potassium	mg/L			10.2	10.8	13.6	36.1	Pool dry
Selenium	mg/L			0.0008	0.0008	0.0013	0.0027	Pool dry
Total Selenium	mg/L			0.0008	0.0009	0.0013	0.0057	Pool dry

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4	Q4 Resample
Silicon (SiO ₂)	mg/L			44.4	49.8	45.2	22.9	Pool dry
Sodium	mg/L			79.9	82.2	105	174	Pool dry
Strontium	mg/L	1	2.5	0.276	0.324	0.385	0.383	Pool dry
Sulphate	mg/L			70	80	101	174	Pool dry
Sulphur	mg/L			24	27	33	63	Pool dry
Uranium	mg/L			0.00071	0.00085	0.00218	0.0111	Pool dry
Vanadium	mg/L			0.0026	0.0018	0.0067	0.0164	Pool dry
Zinc	mg/L	0.00248	0.008	<0.001	<0.001	<0.001	0.001	Pool dry
Chlorophyll a	mg/L	0.01		0.006	0.006	0.034	1.11	Pool dry
Dissolved Organic Carbon	mg/L			3	5	5	31	Pool dry
Electrical Conductivity (field)	uS/cm	1400	1600	1004	1207	1264	1961	Pool dry
pH (field)	N/A	<6.5 OR >8	<6 OR >8.2	7.6	7.53	7.97	8.88	Pool dry
Temperature (field)	deg C			30.2	24.7	21.7	30.2	Pool dry
Turbidity (field)	NTU			12	6.72*	NS	97.34	Pool dry
Dissolved Oxygen (field)	mg/L			7.8	3.1	7.16	11.81	Pool dry

* Result from resample collected on 16 June 2025

Appendix 2: Jimmawurrada Creek Groundwater Quality Monitoring Results

Table 19: Quarterly water quality results for JWO21 and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Date				11/03/2025	08/05/2025	17/08/2025	08/11/2025
pH (field)	N/A	<6.5 OR >8	<6 OR >8.4	7.12	7.16	6.95	6.99
pH (lab)	N/A	<6.5 OR >8	<6 OR >8.4	7.75	7.42	7.66	7.6
Temperature	Deg C			32.8	31.3	29.3	32.6
Electrical Conductivity (field)	uS/cm			674	671	655	679
Electrical Conductivity (lab)	uS/cm			641	629	651	614
Dissolved Oxygen	mg/L			7.7	6.9	7	6.8
Dissolved Oxygen	%			86.9	74.9	79.9	74.3
TDS	mg/L			380	376	384	368
TSS	mg/L			24	<5	<5	<5
Silicon (SiO ₂)	mg/L			31.2	33.2	32.2	31.7
Total Alkalinity (CoCO ₃)	mg/L			189	203	180	185
Total Hardness (CaCO ₃)	mg/L			204	205	209	213
Dissolved Organic Carbon	mg/L			<1	2	2	<1
Sodium	mg/L			52	49	52	51
Potassium	mg/L			5	5	5	6
Calcium	mg/L			33	36	36	36
Chloride	mg/L			63	68	68	72
Magnesium	mg/L			29	28	29	30
Sulphate	mg/L			23	22	23	22
Aluminium	mg/L			<0.01	<0.01	<0.01	<0.01

Arsenic	mg/L			<0.001	<0.001	<0.001	<0.001
Barium	mg/L			0.012	0.012	0.012	0.012
Boron	mg/L			0.22	0.22	0.22	0.21
Cobalt	mg/L			<0.001	<0.001	<0.001	<0.001
Cadmium	mg/L			<0.0001	0.0002	<0.0001	<0.0001
Copper	mg/L			<0.001	0.055	<0.001	<0.001
Chromium	mg/L			<0.001	<0.001	<0.001	<0.001
Iron	mg/L			<0.05	<0.05	<0.05	<0.05
Lead	mg/L			<0.001	<0.001	<0.001	<0.001
Manganese	mg/L			0.001	<0.001	<0.001	<0.001
Mercury	mg/L			<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001
Nickel	mg/L			<0.001	<0.001	<0.001	<0.001
Selenium	mg/L			<0.01	<0.01	<0.01	<0.01
Strontium	mg/L			0.162	0.16	0.155	0.163
Sulphur	mg/L			7	8	8	8
Zinc	mg/L			<0.005	<0.005	0.005	<0.005
Uranium	mg/L			<0.001	<0.001	<0.001	<0.001
Vanadium	mg/L			<0.01	<0.01	<0.01	<0.01
Nitrate as N	mg/L			0.6	0.54	0.54	0.56
Nitrite as N	mg/L			<0.01	<0.01	<0.01	<0.01
Total Nitrogen	mg/L			0.8	0.7	0.7	1.1
Total Phosphorus	mg/L			0.02	0.02	0.08	0.02

Table 20: Quarterly water quality results for JWO23 and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Date				11/03/2025	08/05/2025	17/08/2025	08/11/2025
pH (field)	N/A	<6.5 OR >8	<6 OR >8.4	7.12	7.3	6.91	7.03
pH (lab)	N/A	<6.5 OR >8	<6 OR >8.4	7.71	7.49	7.66	7.63
Temperature	Deg C			33.3	31.8	30.1	34.5
Electrical Conductivity (field)	uS/cm			830	830	790	842
Electrical Conductivity (lab)	uS/cm			786	784	782	741
Dissolved Oxygen	mg/L			5.6	3	5.3	4.8
Dissolved Oxygen	%			62.4	32.5	59.6	52.5
TDS	mg/L			472	459	464	452
TSS	mg/L			236	166	34	<5
Silicon (SiO ₂)	mg/L			34.2	36.4	32.7	35
Total Alkalinity (CoCO ₃)	mg/L			206	225	194	185
Total Hardness (CaCO ₃)	mg/L			240	241	237	243
Dissolved Organic Carbon	mg/L			2	4	2	2
Sodium	mg/L			68	66	67	67
Potassium	mg/L			8	8	8	8
Calcium	mg/L			40	42	40	43
Chloride	mg/L			86	94	92	94
Magnesium	mg/L			34	33	32	33
Sulphate	mg/L			40	41	40	42
Aluminium	mg/L			<0.01	<0.01	<0.01	<0.01
Arsenic	mg/L			<0.001	<0.001	<0.001	<0.001

Barium	mg/L			0.03	0.027	0.029	0.028
Boron	mg/L			0.25	0.24	0.24	0.23
Cobalt	mg/L			<0.001	<0.001	<0.001	<0.001
Cadmium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001
Copper	mg/L			<0.001	0.042	<0.001	<0.001
Chromium	mg/L			<0.001	<0.001	<0.001	<0.001
Iron	mg/L			<0.05	<0.05	<0.05	<0.05
Lead	mg/L			<0.001	<0.001	<0.001	<0.001
Manganese	mg/L			0.006	0.006	0.024	<0.001
Mercury	mg/L			<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001
Nickel	mg/L			<0.001	<0.001	0.002	<0.001
Selenium	mg/L			<0.01	<0.01	<0.01	<0.01
Strontium	mg/L			0.196	0.187	0.182	0.189
Sulphur	mg/L			14	16	14	15
Zinc	mg/L			<0.005	<0.005	0.012	<0.005
Uranium	mg/L			<0.001	<0.001	<0.001	<0.001
Vanadium	mg/L			<0.01	<0.01	<0.01	<0.01
Nitrate as N	mg/L			0.22	0.2	0.65	0.22
Nitrite as N	mg/L			0.01	<0.01	<0.01	<0.01
Total Nitrogen	mg/L			1.7	2.5	1.9	0.6
Total Phosphorus	mg/L			0.13	0.21	0.06	0.03

Table 21: Quarterly water quality results for JWO29 and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Date				11/03/2025	08/05/2025	17/08/2025	08/11/2025
pH (field)	N/A	<6.5 OR >8	<6 OR >8.4	7.06	7.1	6.85	6.93
pH (lab)	N/A	<6.5 OR >8	<6 OR >8.4	8	7.41	7.67	7.58
Temperature	Deg C			31.5	30.9	28.8	31.9
Electrical Conductivity (field)	uS/cm			848	839	815	840
Electrical Conductivity (lab)	uS/cm			810	811	813	770
Dissolved Oxygen	mg/L			7.1	7.1	6.6	6.5
Dissolved Oxygen	%			79.1	75.7	74.5	70.6
TDS	mg/L			479	476	482	482
TSS	mg/L			<5	<5	<5	<5
Silicon (SiO2)	mg/L			33.1	35	32.8	33.9
Total Alkalinity (CoCO3)	mg/L			262	270	248	244
Total Hardness (CaCO3)	mg/L			284	281	276	285
Dissolved Organic Carbon	mg/L			<1	2	1	<1
Sodium	mg/L			63	60	61	62
Potassium	mg/L			6	7	6	7
Calcium	mg/L			48	50	48	50
Chloride	mg/L			78	84	83	84
Magnesium	mg/L			40	38	38	39
Sulphate	mg/L			35	35	36	38
Aluminium	mg/L			<0.01	<0.01	<0.01	<0.01
Arsenic	mg/L			<0.001	<0.001	<0.001	<0.001

Barium	mg/L			0.022	0.02	0.021	0.021
Boron	mg/L			0.26	0.25	0.25	0.23
Cobalt	mg/L			<0.001	<0.001	<0.001	<0.001
Cadmium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001
Copper	mg/L			<0.001	0.034	<0.001	<0.001
Chromium	mg/L			<0.001	<0.001	<0.001	<0.001
Iron	mg/L			<0.05	<0.05	<0.05	<0.05
Lead	mg/L			<0.001	<0.001	<0.001	<0.001
Manganese	mg/L			<0.001	<0.001	0.001	<0.001
Mercury	mg/L			<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001
Nickel	mg/L			<0.001	<0.001	<0.001	<0.001
Selenium	mg/L			<0.01	<0.01	<0.01	<0.01
Strontium	mg/L			0.233	0.228	0.225	0.225
Sulphur	mg/L			13	13	12	13
Zinc	mg/L			<0.005	<0.005	0.006	<0.005
Uranium	mg/L			<0.001	0.001	0.001	0.001
Vanadium	mg/L			<0.01	<0.01	<0.01	<0.01
Nitrate as N	mg/L			0.56	0.56	0.51	0.52
Nitrite as N	mg/L			<0.01	<0.01	<0.01	<0.01
Total Nitrogen	mg/L			0.8	0.8	0.8	0.7
Total Phosphorus	mg/L			0.01	0.01	0.04	0.03

Table 22: Quarterly water quality results for PZ09MEJ004 and comparison to Tier 1 and Tier 2 SSGVs

Parameter	Units	SSGV: Early Response Criteria (Tier 1)	SSGV: Trigger Criteria (Tier 2)	Q1	Q2	Q3	Q4
Date				27/02/2025	08/05/2025	17/08/2025	08/11/2025
pH (field)	N/A	<6.5 OR >8	<6 OR >8.4	7.23	7.32	7.45	7.13
pH (lab)	N/A	<6.5 OR >8	<6 OR >8.4	7.75	7.48	7.66	7.62
Temperature	Deg C			28.5	25.1	22.9	25.1
Electrical Conductivity (field)	uS/cm			1349	1310	1291	1342
Electrical Conductivity (lab)	uS/cm			1290	1300	1210	1270
Dissolved Oxygen	mg/L			7	5.3	5.8	4.7
Dissolved Oxygen	%			76.1	57.6	62.7	51.2
TDS	mg/L			754	746	768	774
TSS	mg/L			<5	<5	<5	<5
Silicon (SiO ₂)	mg/L			26.7	28.8	25.6	27.6
Total Alkalinity (CoCO ₃)	mg/L			263	282	281	252
Total Hardness (CaCO ₃)	mg/L			430	442	450	462
Dissolved Organic Carbon	mg/L			2	2	2	2
Sodium	mg/L			83	88	91	92
Potassium	mg/L			6	7	7	7
Calcium	mg/L			83	93	91	96
Chloride	mg/L			254	238	226	246
Magnesium	mg/L			54	51	54	54
Sulphate	mg/L			48	51	48	48
Aluminium	mg/L			<0.01	<0.01	<0.01	<0.01
Arsenic	mg/L			<0.001	<0.001	<0.001	<0.001

Barium	mg/L			0.024	0.027	0.032	0.027
Boron	mg/L			0.31	0.33	0.33	0.31
Cobalt	mg/L			<0.001	<0.001	<0.001	<0.001
Cadmium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001
Copper	mg/L			<0.001	0.072	<0.001	<0.001
Chromium	mg/L			<0.001	<0.001	<0.001	<0.001
Iron	mg/L			0.68	0.85	0.21	0.84
Lead	mg/L			<0.001	<0.001	<0.001	<0.001
Manganese	mg/L			0.128	0.147	0.159	0.142
Mercury	mg/L			<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001
Nickel	mg/L			0.001	0.002	0.002	<0.001
Selenium	mg/L			<0.01	<0.01	<0.01	<0.01
Strontium	mg/L			0.346	0.344	0.363	0.355
Sulphur	mg/L			18	19	18	17
Zinc	mg/L			<0.005	<0.005	<0.005	<0.005
Uranium	mg/L			<0.001	<0.001	<0.001	<0.001
Vanadium	mg/L			<0.01	<0.01	<0.01	<0.01
Nitrate as N	mg/L			0.11	0.01	0.04	0.02
Nitrite as N	mg/L			<0.01	<0.01	0.02	<0.01
Total Nitrogen	mg/L			0.2	0.3	2	0.2
Total Phosphorus	mg/L			0.05	0.09	0.23	0.05