RioTinto

Environment Protection and Biodiversity Conservation Act 1999 Annual Compliance Report

EPBC Approval: 2018/8299

Project: West Angelas Iron Ore Mine - Deposits C, D and G

Report period: 1 January – 31 December 2024

Contents

1	Description of activities	1
2	Audit table	1
3	Groundwater Environmental Management Plan	12
3.1	Results, analysis and interpretation - groundwater levels, objective based provisions	13
3.2	Results, analysis and interpretation - groundwater levels, outcome based provisions	15
3.3	Results, analysis and interpretation - groundwater quality	18
4	New environmental risks	21
5	Declaration of accuracy	22
6	Appendices	23
Table	es	
	l: EPBC Approval Conditions Compliance Table – EPBC 2018/8299 – West Angelas Iron Orets C, D and G	
Table 2	2: Environmental Criteria associated with Karijini NP Groundwater Level	12
Table 3	3: Boundary bore monitoring - water levels (mAHD) compared to Target 1 criteria	13
Table 4	4: Zone 3 monitoring – quarter 1 water levels (mAHD) compared to Targets 2, 3 and 4 criteria	ı 14
Table 5	5: Zone 3 monitoring – quarter 2 water levels (mAHD) compared to Targets 2, 3 and 4 criteria	14
	S: Zone 3 monitoring – quarter 3 water levels (mAHD) compared to Targets 2, 3 and 4 criteria	
	7: Zone 3 monitoring – quarter 4 water levels (mAHD) compared to Targets 2, 3 and 4 criteria	
	3: Zone 2 water levels (mAHD) in comparison to Grey Box Model - compliance with Early Res	•
	or 2 and Trigger Level 1 Criteria	
	reshold Criteria	
	0: Environmental criteria associated with Karijini NP water quality	
	11: Zone 2 and Zone 3 monitoring bores - Trigger Criteria 1 and Threshold Criteria 1	
	2: Zone 2 monitoring bores - compliance with EC Early Response Indicator 2 and Trigger Le	
	3: Zone 3 monitoring bores - compliance with EC Threshold Criteria	
	4: Zone 2 monitoring bores water quality quarterly results	
	5: Zone 3 monitoring bores water quality quarterly results	
Table 1	6: Boundary bore monitoring bore water quality quarterly results	23
Figu	res	
Figure	1: Location of injection, monitoring and boundary bores for the MAR scheme	17

1 Description of activities

EPBC approval number:	2018/8299
Project name:	West Angelas Iron Ore Mine – Deposits C, D and G
Approval holder:	Robe River Mining Co. Pty. Ltd.
Approval holder's Australian Business Number:	71 008 694 246
Approved action:	To develop iron ore deposits C, D and G, and associated works and infrastructure at the existing West Angelas Iron Ore Mine, Pilbara, Western Australia.
Location of the project:	Pilbara, West Australia
Reporting period:	1 January 2024 to 31 December 2024
Report preparation date:	30 April 2025
Implementation phase(s) during reporting period:	Operational

2 Audit table

Details of compliance with each condition under EPBC approval 2018/8299 are presented in Table 1.

Table 1: EPBC Approval Conditions Compliance Table – EPBC 2018/8299 – West Angelas Iron Ore Mine – Deposits C, D and G

Condition Number	Condition	Compliance status	Evidence/Comments
1	To minimise impacts to EPBC Act listed threatened species , the approval holder must not clear more than 4 310 ha of vegetation within the development envelope at deposits C, D and G as shown in Attachment A, and for associated infrastructure for the development of deposits C, D and G.	Compliant	Aerial photography was analysed during the reporting period demonstrating that clearing of vegetation was within the prescribed limit. A total of 870ha of vegetation has been cleared within the development envelope at deposits C, D and G.
2	To minimise impacts to EPBC Act listed threatened species, the approval holder must comply with conditions 5-1(1), 5-1(4), 5-1(5), 5-1(6), 5-2, 5-3, 5-4, 5-5, 5-6, 5-7 and 5-8 (Environmental Management Plan) of the Western Australia approval.	Compliant	A Condition Environmental Management Plan (our ref: RTIO-HSE-0311343) was submitted to the Western Australian Department of Water and Environmental Regulation (DWER) on 2 December 2019 and approved on 15 April 2020 by DWER (DWER ref: DWERT4704). The 2022 Annual Compliance Assessment Report (our ref: RTIO-0990122) recorded compliance (or 'not required') with conditions 5-1(1), 5-1(4), 5-1(5), 5-1(6), 5-2, 5-3, 5-4, 5-5, 5-6, 5-7 and 5-8.
3	To minimise impacts to EPBC Act listed threatened species or their habitat the approval holder must ensure that there is: (a) no drawdown of groundwater associated with the action at the boundary of, or within, Karijini National Park and (b) no change in groundwater quality associated with the action at the boundary of, or within, Karijini National Park.		The Groundwater EMP (our ref: RTIO-HSE-0349522) required by condition 5 was submitted on 21 February 2021 and approved by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) on 19 April 2022 (our ref: RTIO-1045735). The Plan was implemented throughout the reporting period, with compliance demonstrated in this report (our ref: RTIO-1020598). Refer to Section 3 for further details.
4	A Condition Environmental Management Plan to achieve the outcomes specified in Condition 3 must be submitted for approval by the Minister . The approved Condition Environmental Management Plan must be implemented. The approval holder must not commence dewatering activities unless the Minister has approved the Condition Environmental Management Plan in writing.	Compliant	The Groundwater EMP (our ref: RTIO-HSE-0349522) required by condition 5 was submitted on 21 February 2021 and approved by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) on 19 April 2022 (our ref: RTIO-1045735). The Plan was implemented throughout the reporting period, with compliance demonstrated in this report (our ref: RTIO-1020598). Refer to Section 3 for further details. Dewatering activities for production commenced on 20 February 2023 and

Condition Number	Condition	Compliance status	Evidence/Comments
			reinjection into the Managed Aquifer Recharge Scheme commenced on 18 May 2023.
5	The Condition Environmental Management Plan must: (a) provide an explanation of the method to be used to ensure the outcome required by condition 3(a) is met; (b) specify threshold criteria to demonstrate compliance with the environmental outcomes specified in condition 3. Exceedance of the threshold criteria represents non-compliance with these conditions; (c) specify trigger criteria that must provide an early warning that the threshold criteria identified in the Condition Environmental Management Plan may not be met; (d) specify monitoring capable of determining if trigger criteria and threshold criteria are exceeded. The approval holder must have a high degree of certainty that they will ensure the outcomes at condition 3 are met; (e) specify actions to be implemented in the event that trigger criteria have been exceeded; (f) specify threshold contingency actions to be implemented in the event that threshold criteria are exceeded, including ceasing water extraction if necessary; (g) provide the format and timing for the reporting of monitoring results against trigger criteria and threshold criteria to demonstrate that condition 3 has been met.	Compliant	The Groundwater EMP (our ref: RTIO-HSE-0349522) required by condition 5 was submitted on 21 February 2021 and approved by DCCEEW on 19 April 2022 (our ref: RTIO-1045735). The plan meets the stipulated requirements and was implemented during the reporting period.
6	In the event that monitoring, tests, surveys or investigations indicate exceedance of triggers or threshold criteria specified in the Condition Environmental Management Plan, the approval holder must: (a) report the exceedance in writing to the Department within five (5) business days of becoming aware of the exceedance; (b) commence implementing the trigger or threshold contingency actions specified in the Condition Environmental Management Plan specified at Condition 4 within 24 hours of becoming aware of the exceedance and, in respect of exceedance of threshold criteria, 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;	Compliant	No exceedances of trigger or threshold criteria occurred during the 2024 reporting period. Refer to Section 3 for further details.

Condition Number	Condition	Compliance status	Evidence/Comments
Number	 (c) investigate to determine the cause of the trigger or threshold criteria being exceeded; (d) investigate to provide information for the Department to determine potential environmental harm or alteration of the environment that occurred due to threshold criteria being exceeded; and (e) provide a report to the Department within twenty-one (21) business days of the exceedance being reported as required by condition 6(a). The report must include: (i) details of trigger or threshold contingency actions implemented; (ii) the effectiveness of the trigger or threshold contingency actions implemented, against the threshold criteria; (iii) the findings of the investigations required by condition 6(c) and 6(d); (iv) measures to prevent the threshold criteria being exceeded in the future; (v) measures to prevent, mitigate and remedy the environmental harm which may have occurred; and (vi) justification of the threshold remaining, or being adjusted based on better understanding, demonstrating that outcomes will continue to 	status	
7	be met. Groundwater management and monitoring must continue until it can be demonstrated that the outcomes specified at Condition 3 can be met without active management.	Compliant	The Groundwater EMP (our ref: RTIO-HSE-0349522) required by condition 5 was submitted on 21 February 2021 and approved by DCCEEW on 19 April 2022 (our ref: RTIO-1045735) and by DWER on 14 June 2022 (DWER ref: DWERT6155). The plan was implemented during the reporting period.
8	To compensate for the residual significant impacts of clearing Ghost Bat (Macroderma gigas) habitat and Pilbara Leaf-nosed Bat (Rhinonicteris aurantia (Pilbara form)) habitat, the approval holder must within six months of the date of this approval, submit an Offset Strategy for the Minister's written approval. The Offset Strategy must be consistent with the principles of the EPBC Act Environmental Offsets Policy and must: (a) specify the approach for providing offsets for the clearing of 507 ha of Ghost Bat habitat and 507 ha of Pilbara Leaf-nosed Bat habitat; (b) identify threats for the Ghost Bat and Pilbara Leaf-nosed Bat;	Compliant	Offset strategy was submitted to DAWE on 24 March 2020 (our ref: RTIO-HSE-0342437). A revised Impact Reconciliation Procedure (IRP) (our ref: RTIO-HSE-0354022) was submitted to DWER on 13 July 2021 to meet both Western Australian and Commonwealth offset requirements. The IRP (our ref: RTIO-HSE-0354022) was resubmitted to DWER 1 December 2021, approved by DWER 18 August 2022 (DWER ref: DWERA-001283).

Condition Number	Condition	Compliance status	Evidence/Comments
Number	(c) nominate detailed offset projects that will realise a conservation benefit for the Ghost Bat and the Pilbara Leaf-nosed Bat in accordance with relevant approved conservation advice, recovery plans and threat abatement plans and regional conservation plans; (d) if the proposed Offset Strategy includes offset(s) that are not land acquisition, specify a financial commitment to offset projects of at least \$3,000 AUD (exclusive of GST) per hectare of Ghost Bat habitat cleared and, in addition, at least \$821.00 AUD (exclusive of GST) per hectare of Pilbara Leaf-nosed bat habitat cleared. Payments in respect of this 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 particular payment is made; (e) specify the location and nature of each proposed offset, along with detailed objectives, budget, timeframes, performance and completion criteria for evaluating conservation outcomes, monitoring and reporting requirements; (f) 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); (g) 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; (h) include processes to adaptively manage proposed offsets; and (i) include a justification for how the proposed offsets meet the EPBC Act Environmental Offsets Policy. The approval holder must implement the approved Offset Strategy. The approval holder must implement the proposed offsets under the Offset Strategy within two months of the approval of the Offset Strategy, or another time as agreed in writing by the Department.	status	Impact Reconciliation Report (our ref: RTIO-0990137) for 2021-2022 was submitted to DCCEEW 28 April 2024 (our ref: RTIO-0993623). The approval holder did not receive an invoice for the EPBC component of the IRR during the reporting period.
9	Subject to condition 11, 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 habitat and Pilbara Leaf-nosed Bat habitat cleared , and the total amount of offset funds that have been allocated to the offset projects committed under the Offset Strategy and detail the implementation of offset projects. Subsequent reporting periods will be biennial,	Compliant	Offset strategy was submitted to DAWE on 24 March 2020 (our ref: RTIO-HSE-0342437). A revised Impact Reconciliation Procedure (IRP) (our ref: RTIO-HSE-0354022) was submitted to DWER on 13 July 2021 to meet both Western Australian and Commonwealth offset requirements.

Condition Number	Condition	Compliance status	Evidence/Comments
	calendar years, with the first biennial reporting period inclusive of the calendar year in which commencement of the action begins and the following calendar year. The approval holder must submit the biennial reports to the Department by the 30 April following the end of each biennial period.		The IRP (our ref: RTIO-HSE-0354022) was submitted to DWER 1 December 2021, approved by DWER 18 August 2022 (DWER ref: DWERA-001283). Impact Reconciliation Report (our ref: RTIO-0990137) for 2021-2022 was submitted to DCCEEW 28 April 2023 (our ref: RTIO-0993623). The approval holder did not receive an invoice for the EPBC component of the IRR during the reporting period.
10	The approval holder may apply to the Department for a variation to the approved Offset Strategy under condition 8 by submitting an application in writing to the Department . The application must include: (a) the approval holders contact details, including referral number and ABN/ACN (b) a draft of the proposed variation (c) a written statement that sets out the reasons why the approval holder considers that the proposed variation is required. A variation to the approved Offset Strategy must be approved by the Department in writing. If the varied Offset Strategy is approved by the Department , the varied Offset Strategy must be implemented from the date of approval of the varied Offset Strategy.	Not applicable	No variations to the Offset Strategy were required during the reporting period.
11	If a Conservation Offset Fund has been established by the Western Australian Government, and approved by the Minister, then Conditions 8, 9 and 10 may not apply (or may cease to be applied) with the agreement by the Department in writing. In such a case, the approval holder must provide funds biennially to the Conservation Offset Fund. The amount of funds must be based on the area of bat habitat cleared in the biennial reporting period as set out below. 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. The funds to be paid must be equivalent to the 2019 value of the following amounts by the application of the CPI in each financial year from the date of this approval decision until the date on which any particular payment is made: (a) at least \$3,000 AUD (exclusive of GST) per hectare of Ghost Bat habitat cleared and, in addition;	Not applicable	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. The Federal Environment Minister has not yet approved this request.

Condition Number	Condition	Compliance status	Evidence/Comments
	(b) at least \$821.00 AUD (exclusive of GST) per hectare of Pilbara Leaf- nosed bat habitat cleared.		
	Each payment required by this condition must comprise the total required in respect of the most recently ended biennial reporting period and be received by the Conservation Offset Fund within one month of the end of that biennial reporting period .		
12	Prior to making the payment required by Condition 11, the approval holder must submit written evidence to the Department of the total area, including shapefiles, of Ghost Bat habitat 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.	Not applicable	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. The Federal Environment Minister has not yet approved this request. The first Impact Reconciliation Report (our ref: RTIO-0210819) was submitted on 16 September 2022. The Impact Reconciliation Report (our ref: RTIO-0990137) for 2021-2022 was submitted to DCCEEW 28 April 2024 (our ref: RTIO-0993623). The approval holder did not receive an invoice for the EPBC component of the IRR during the reporting period.
13	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 .	Not applicable	Notification of commencement of the action was sent on 8 October 2019 (our ref: RTIO-HSE-0336462). The action commenced on 7 October 2019.
14	If the commencement of the action does not occur within 5 years from the date of this approval, then the approval holder must not commence the action without the prior written agreement of the Minister .	Not applicable	The action commenced on 7 October 2019, within 5 years of the date of the approval.
15	The approval holder must maintain accurate and complete compliance records.	Compliant	Records associated with the conditions of this approval are maintained within the approval holder's document and data management systems.
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.
	Note: Compliance records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act , and or used to verify compliance with the conditions. Summaries of the result of an		

Condition Number	Condition	Compliance status	Evidence/Comments
	audit may be published on the Department 's website or through the general media.		
17	The approval holder must: (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, 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 (d) keep plans published on the website until the end date of this approval.	Not applicable	There were no plans submitted or approved during 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 <i>Guidelines for biological survey and mapped data</i> (2018) and submitted electronically to the Department in accordance with the requirements of the plan.	Not applicable	There was no requirement to submit monitoring data to the Department during the reporting period in accordance with the Groundwater EMP (our ref: RTIO-HSE-0349522).
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: (a) publish each compliance report on the website on or before 30 April for the previous 12 month calendar year period; notify the Department by email that a compliance report has been published on the website within five business days of the date of publication; (b) keep all compliance reports publicly available on the website until this approval expires; (c) exclude or redact sensitive ecological data from compliance reports published on the website; and (d) 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. Note: Compliance reports may be published on the Department's website.	Compliant	The 2023 Annual Compliance Report (our ref: RTIO-0989978) was published on the approval holder's website on 28 April 2024.
20	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	Not applicable	No incident or non-compliance with conditions and commitments made in plans occurred during the reporting period.

Condition Number	Condition	Compliance status	Evidence/Comments
	later than two business days after becoming aware of the incident or non-compliance. The notification must specify: (a) the condition which is or may be in breach; and (b) a short description of the incident and/or non-compliance.		
21	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 10 business days after becoming aware of the incident or non-compliance, specifying:	Not applicable	No incident or non-compliance with conditions and commitments made in plans occurred during the reporting period.
	 (a) any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future; (b) the potential impacts of the incident or non-compliance; and (c) the method and timing of any remedial action that will be undertaken by the approval holder. 		
22	The approval holder must ensure that independent audits of compliance with the conditions are conducted as requested in writing by the Minister .	Not applicable	No audits requested.
23	For each independent audit , the approval holder must: (a) provide the name and qualifications of the independent auditor and the draft audit criteria to the Department ;	Not applicable	No audits requested.
	 (b) only commence the independent audit once the audit criteria have been approved in writing by the Department; and (c) submit an audit report to the Department within the timeframe specified in the approved audit criteria. 		
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	No audits requested.
25	The approval holder may, at any time, apply to the Minister for a variation to an action management plan approved by the Minister under condition 4 or as subsequently revised in accordance with these conditions, 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 previous action management plan.	Not applicable	No variations required during the reporting period.
26	The approval holder may choose to revise an action management plan approved by the Minister under condition 4, or as subsequently revised in	Not applicable	No revisions required during the reporting period.

Condition Number	Condition	Compliance status	Evidence/Comments
	accordance with these conditions, without submitting it for approval under section 143A of the EPBC Act , if the taking of the action in accordance with the RAMP would not be likely to have a new or increased impact .		
27	If the approval holder makes the choice under condition 26 to revise an action management plan without submitting it for approval, the approval holder must: (a) notify the Department in writing that the approved action management plan has been revised and provide the Department with: (i) an electronic copy of the RAMP; (ii) an electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP; (iii) an explanation of the differences between the approved action management plan and the RAMP; (iv) the reasons the approval holder considers that taking the action in accordance with the RAMP would not be likely to have a new or increased impact; and (v) written notice of the date on which the approval holder will implement the RAMP (RAMP implementation date), being at least 20 business days after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the Department. (b) subject to condition 28, implement the RAMP from the RAMP implementation date.	Not applicable	No revisions required during the reporting period.
28	The approval holder may revoke their choice to implement a RAMP under condition 26 at any time by giving written notice to the Department . If the approval holder revokes the choice under condition 26, the approval holder must implement the previous action management plan approved by the Minister .	Not applicable	No revisions required during the reporting period.
29	If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the RAMP would be likely to have a new or increased impact , then: (a) condition 26 does not apply, or ceases to apply, in relation to the RAMP; and (b) the approval holder must implement the action management plan specified by the Minister in the notice.	Not applicable	No revisions required during the reporting period.

Condition Number	Condition	Compliance status	Evidence/Comments
30	At the time of giving the notice under condition 29, the Minister may also notify that for a specified period of time, condition 26 does not apply for one or more specified action management plans. Note: conditions 26, 27, 28 and 29 are not intended to limit the operation of section 143A of the EPBC Act which allows the approval holder to submit a revised action management plan, at any time, to the Minister for approval.	Not applicable	No revisions required during the reporting period.
31	Within 30 days after the completion of the action , the approval holder must notify the Department in writing and provide completion data .	Not applicable	The action has not been completed.

3 Groundwater Environmental Management Plan

Groundwater Management conditions are summarised in Table 2 and Table 10 for the Groundwater Environmental Management Plan in accordance with the 2022 Groundwater EMP (our ref: RTIO-HSE-0349522).

Table 2: Environmental Criteria associated with Karijini NP Groundwater Level

Key	environmental factor: – Karijini NP Groundwater Level		
	dition 3(a) - Ensure that there is no drawdown of groundwater associated with the action at the boundary of, or within, Karijini onal Park	Reporting period 1 January – 31 December 2024	
<u>Obj</u>	ective-based Provisions		
Mai	nagement Targets:	Status report:	
1.	Target 1: Water levels in bores to the south and north of the MAR scheme in areas outside of the regional aquifer are above or equal to rolling 3 year, seasonally adjusted water levels (mbgl).		
2.	Target 2: Water levels in Zone 3 monitoring bores and modelled are above or equal to rolling 3 year, seasonally adjusted water levels (mbgl).	Management Target not	
3.	Target 3 : Water levels in Zone 3 monitoring bores and modelled are above or equal to rolling 5 year, seasonally adjusted water levels (mbgl).	exceeded	
4.	Target 4: Water levels in Zone 3 monitoring bores and modelled are above or equal to rolling 10 year, seasonally adjusted water levels (mbgl).		
<u>Out</u>	come-based Provisions (Triggers and Thresholds)		
Ear	ly Response Indicators:	Status report:	
1.	Early Response Indicator 1 : Injection bores non-operational outside of proposed plan for operation of the MAR scheme (more than 1 of a paired set of bores inoperable for more than 1 week).	Early Response Indicator not	
2.	Early Response Indicator 2: Two consecutive monitoring periods of drawdown 25 cm greater than Grey Box level for modelled mitigation scenario in Zone 2 monitoring bores.	exceeded	
Tric	gger Criteria:	Status report:	
1.	Trigger Level 1: Two consecutive monitoring periods of drawdown 50 cm greater than Grey Box level for modelled mitigation scenario in Zone 2 monitoring bores.	Trigger criteria not exceeded	
2.	Trigger Level 2: Two consecutive monitoring periods of drawdown associated with the proposal of 10 cm or greater than the Grey Box level for modelled mitigation scenario in Zone 3 monitoring bores.	Trigger chiena noi exceeded	

Key environmental factor: - Karijini NP Groundwater Level	
Threshold criterion:	Status report:
1. Threshold Criteria: Two consecutive monitoring periods of drawdown associated with the proposal of 20 cm or greathan Grey Box level for modelled mitigation scenario in Zone 3 monitoring bores.	Threshold criteria not exceeded

3.1 Results, analysis and interpretation - groundwater levels, objective based provisions

Objective-based provisions have been applied to groundwater modelling within the project area and eastern Karijini NP to ensure currency and accuracy of groundwater modelling. This provides a representative and robust base to inform outcome-based provisions. Objective-based management targets and recorded water levels for the 2024 reporting period are provided in Table 3 to Table 7.

As additional data is collected the model becomes more accurate at simulating trends, which will be reflected in target adjustments.

Four (4) management target criteria are outlined in Table 2-1 of the GEMP to support Grey Box model accuracy. Not meeting the target criteria prompts completion of the following management actions:

- review of modelling inputs to ensure model is accurate and current.
- review of MAR operational monitoring data.
- review accuracy of model and representativeness of the current environment and activities.

Target Criteria 1 requires quarterly manual groundwater depth levels to be above or equal to rolling 3 year, seasonally adjusted water levels in boundary bores to the south and north of the MAR scheme in areas outside of the regional aquifer (Table 3). Target criteria 1 was met for all boundary bores in 2024.

Target Criteria 2, 3, and 4 are determined by comparing recorded water levels in Zone 3 monitoring bores with modelled 3-year (seasonally adjusted) water levels for the 3-year, 5-year, and 10-year rolling averages, respectively. The Zone 3 water level target results for each quarter are presented in Table 4 to 7. Target criteria 2, 3 and 4 was met in all bores for all quarters in 2024.

Table 3: Boundary bore monitoring - water levels (mAHD) compared to Target 1 criteria

		onally adjus 3 year rolli			Water level (mAHD) (Representative Quarterly sample)				
Bore ID	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
MB18WAW0003	623.06	623.00	622.98	623.00	623.32	623.00	622.98	623.00	
MB19WAW0006	622.75	622.77	623.11	623.14	623.05	623.07	623.06	623.02	
MB21WAD0013	645.13	645.16	645.19	645.00	645.20	645.26	645.26	645.20	
MB23TURB0001	622.37	622.24	622.13	622.28	622.37	622.35	622.13	621.85	

Bold text - target criteria not met.

NR - Not recorded.

Table 4: Zone 3 monitoring - quarter 1 water levels (mAHD) compared to Targets 2, 3 and 4 criteria

	Q1 Seasonal	Q1 Seasonally adjusted water levels – rolling averages (mAHD)					
Bore ID	3 year Target 2	5 year Target 3	10 year Target 4	(mAHD)			
MB16WAW0005	621.92	621.92	621.92	621.92			
MB16WAW0007	623.47	623.47	623.43	623.48			
MB21WAD0017	623.51	N/A	N/A	623.51			
MB21WAD0015	623.26	N/A	N/A	623.26			
MB21WAC0001	622.28	N/A	N/A	623.28			
MB22WAW0001	623.17	N/A	N/A	623.17			
21WAW-M02		Not drilled					
WAW-M01		Not drilled					
MB17WAW0001	623.44	623.44 623.44 623.44					

N/A – Insufficient historical data to develop target.

Bold text - target criteria not met.

NR - Not recorded.

Table 5: Zone 3 monitoring - quarter 2 water levels (mAHD) compared to Targets 2, 3 and 4 criteria

	Q2 Seasonall	Q2 Data logger Average water level					
Bore ID	3 year Target 2	5 year Target 3	10 year Target 4	(mAHD)			
MB16WAW0005	623.41	623.41	623.41	623.41			
MB16WAW0007	623.48	623.48	623.48	623.48			
MB21WAD0017	623.48	N/A	N/A	623.48			
MB21WAD0015	623.29	N/A	N/A	623.29			
MB21WAC0001	623.29	N/A	N/A	623.29			
MB22WAW0001	623.19	N/A	N/A	623.19			
21WAW-M02		Not drilled					
WAW-M01		Not drilled					
MB17WAW0001	623.42	623.42 623.42 623.42					

N/A – Insufficient historical data to develop target.

Bold text - target criteria not met.

NR – Not recorded.

Table 6: Zone 3 monitoring - quarter 3 water levels (mAHD) compared to Targets 2, 3 and 4 criteria

	Q3 Seasonall	Q3 Data logger Average water level					
Bore ID	3 year Target 2	3 year Target 2 5 year Target 3 10 year Target 4					
MB16WAW0005	623.41	623.41	623.41	623.41			
MB16WAW0007	623.48	623.48	623.48	623.48			
MB21WAD0017	623.48 N/A N/A			623.48			
MB21WAD0015	623.29	N/A	N/A	623.29			
MB21WAC0001	623.29	N/A	N/A	623.29			
MB22WAW0001	623.19	N/A	N/A	623.19			
21WAW-M02		Not drilled					
WAW-M01		Not drilled					
MB17WAW0001	623.42	623.42	623.42	623.42			

N/A – Insufficient historical data to develop target.

Bold text - target criteria not met.

NR – Not recorded.

Table 7: Zone 3 monitoring – quarter 4 water levels (mAHD) compared to Targets 2, 3 and 4 criteria

	Q4 Seasonall	Q4 Data logger Average water level					
Bore ID	3 year Target 2	5 year Target 3	10 year Target 4	(mAHD)			
MB16WAW0005	623.34	623.34	623.34	623.34			
MB16WAW0007	623.28	623.28	623.28	623.28			
MB21WAD0017	623.40 N/A N/A			623.40			
MB21WAD0015	623.09	N/A	N/A	623.09			
MB21WAC0001	623.17	N/A	N/A	623.17			
MB22WAW0001	623.11	N/A	N/A	623.11			
21WAW-M02		Not drilled					
WAW-M01		Not drilled					
MB17WAW0001	623.35	623.35	623.35	623.39			

N/A - Insufficient historical data to develop target.

Bold text - target criteria not met.

NR - Not recorded.

3.2 Results, analysis and interpretation - groundwater levels, outcome based provisions

The Grey Box Model is updated quarterly for each monitoring bore, incorporating regional changes observed in boundary bores and data from previous monitoring periods. Manual groundwater depth measurements taken each quarter are then compared against the Grey Box Model values to assess compliance with water level conditions, as outlined in Table 2-2 of the GEMP. The location of the monitoring bores is depicted in Figure 1.

There were no recorded exceedances of Early Response, Trigger and Threshold criteria for water levels in Zone 2 (Table 20) and Zone 3 (Table 21) monitoring bores during 2024.

There were four missed groundwater depth sampling (manual dip) events in 2024: MB21WAD0015 (Q1) and MB16WAW0005 (Q2) MB19WAC0007 (Q3) and MB21WAC0001 (Q3). These incidents were identified during a data review, prompting an internal incident and investigation (internal incident numbers: 2572977785_5087 and 2724332033_58743).

The investigation found that incorrect field 'run' sheets were being used and the Master Monitoring Schedule was not being followed correctly. As a result, manual water level measurements were either missed or collected outside the specified quarterly date range on four occasions during 2024. Water level telemetry data was analysed against existing manual dip data to verify water level trends and ensure alignment with the Grey Box model where quarterly manual depth measurements were missed.

Corrective measures have been implemented to prevent missed and incorrect sampling events in the future. These include:

- Update to the Master Monitoring Scope of Works and associated field 'run' sheet to clearly identify and prioritize all monitoring activities related to MAR GEMP.
- Site Hydrogeologist to review run sheet completion and ensure field data is entered correctly into Envirosys monthly.
- Monthly monitoring compliance reviews with update provided the monthly Site Water Group meeting.
 Bores at risk of missing quarterly sampling requirements are to be identified and addressed before the end of the quarter.

These measures aim to improve data accuracy, ensure compliance, and prevent future sampling discrepancies.

Table 8: Zone 2 water levels (mAHD) in comparison to Grey Box Model - compliance with Early Response Indicator 2 and Trigger Level 1 Criteria

	Average v	vater level (mAHD) (ma	nual dips)			Mo	delled wate	r level (mAl	HD)		
					Q	1	Q	2	Q	3	Q	4
Bore ID	Q1	Q2	Q3	Q4	Early Response 2	Trigger 1	Early Response 2	Trigger 1	Early Response 2	Trigger 1	Early Response 2	Trigger 1
MB16WAW0008	623.59	623.79	623.56	623.47	623.33	623.08	623.46	623.21	623.35	623.10	623.39	623.14
MB19WAC0007	623.25	623.21	NR	623.21	622.98	622.73	622.99	622.74	622.95	622.70	622.86	622.61
MB21WAD0010	623.47	623.42	623.42	623.32	623.10	622.85	623.32	623.07	623.23	622.98	623.06	622.81
MB21WAD0012	623.39	623.35	623.38	623.27	623.18	622.93	623.22	622.97	623.20	622.95	622.91	622.66
WAC_M28	Not drilled Not drilled											
WAW_M16	Not drilled Not drilled											
WAW_M17		Not c	Irilled		Not drilled							

Bold text – Early Response or Trigger exceedance. NR – Not recorded.

Table 9: Zone 3 water levels (mAHD) in comparison to Grey Box Model - compliance with Trigger Level 2 and Threshold Criteria

_	Average v	vater level (mAHD) (ma	nual dips)			Мо	delled wate	r level (mAl	HD)		
Bore ID	Q1	Q2	Q3	Q4	C	11	G	12	C	13	G	14
Boile ID	3	QZ	чэ	Q 4	Trigger 2	Threshold	Trigger 2	Threshold	Trigger 2	Threshold	Trigger 2	Threshold
MB16WAW0005	623.51	NR	623.46	623.44	623.36	623.26	623.39	623.29	623.31	623.21	623.33	623.23
MB16WAW0007	623.57	623.52	623.51	623.50	623.48	623.38	623.50	623.40	623.42	623.32	623.36	623.26
MB21WAD0017	623.57	623.46	623.46	623.44	623.46	623.36	623.49	623.39	623.47	623.37	623.40	623.30
MB21WAD0015	NR	623.04	623.04	622.96	623.25	623.15	623.35	623.25	623.26	623.16	623.04	622.94
MB21WAC0001	623.33	623.28	NR	623.30	623.27	623.17	623.33	623.23	623.31	623.21	623.19	623.09
MB22WAW0001	623.31	623.28	623.27	623.25	623.13	623.03	623.17	623.07	623.17	623.07	623.15	623.05
21WAW-M02		Not c	Irilled		Not drilled							
WAW-M01		Not c	Irilled		Not drilled							
MB17WAW0001	623.56	623.37	623.48	623.48	623.41	623.31	623.41	623.31	623.38	623.28	623.27	623.17

Bold text – Trigger or Threshold exceedance.

NR – Not recorded.

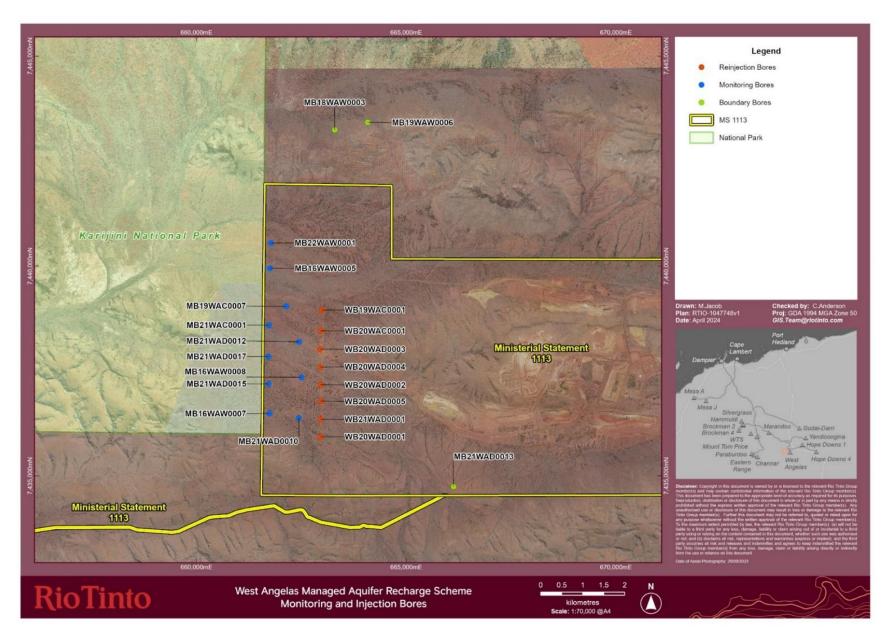


Figure 1: Location of injection, monitoring and boundary bores for the MAR scheme

Table 10: Environmental criteria associated with Karijini NP water quality

Key en	vironmental factor: – Karijini NP groundwater quality	
Conditi Park	on 3(b) - no change in groundwater water quality associated with the action at the boundary of, or within, Karijini National	Reporting period 1 January – 31 December 2024
Early F	Response Indicators:	Status report:
	Long term pH trend in Zone 2 monitoring bores over two consecutive monitoring periods is not consistent with trend in control bore. or Proportional change in EC in Zone 2 monitoring bores is greater than 20% of proportional change in control bore EC over two consecutive monitoring periods	Early Response Indicator not reached.
Trigge	r Criteria Level 1:	Status report:
	Long term pH in Zone 2 monitoring bores is not between 6.5 and 8 for two consecutive monitoring periods and trend is not consistent with trend in control bore and is associated with the action. Or Proportional change in EC in Zone 2 monitoring bores is greater than 50% of proportional change in control bore EC over two consecutive monitoring periods and is associated with the action.	Trigger criteria not exceeded.
<u>Trigge</u>	r Criteria Level 2:	Status report:
	Long term pH in Zone 3 monitoring bores is not between 6.5 and 8 for two consecutive monitoring periods and trend is not consistent with trend in control bore pH. or Proportional change in EC in Zone 3 monitoring bores is greater than 50% of proportional change in control bore EC over two consecutive monitoring periods.	Trigger criteria not exceeded.
Thresh	nold criterion:	Status report:
7. 8.	Long term pH in Zone 3 monitoring bores is not between 6 and 8.5 for two consecutive monitoring periods and trend is not consistent with trend in control bore pH and is associated with the action. or Proportional change in EC in Zone 3 monitoring bores is greater than 80% of proportional change in control bore EC over two consecutive monitoring periods and is associated with the action.	Threshold criteria not exceeded.

3.3 Results, analysis and interpretation - groundwater quality

There were no exceedances of EC and pH water quality trigger and threshold criteria recorded during the reporting period. All recorded pH and EC values for Zone 2 and Zone 3 monitoring bores are presented in Appendix 1.

In Q3, one Zone 2 monitoring bore (MB19WAC0007) exceeded the pH upper limit of 8 with a recorded value of 8.57. However, pH levels returned within the acceptable range in Q4, meaning the Trigger Level 1 criteria was not met. The pH quarterly values and Trigger Criteria 1 and Threshold Criteria 1 for Zone 2 and Zone 3 monitoring bores are presented in Table 11.

Acceptable ranges for EC change, based on Early Response, Trigger, and Threshold criteria, are calculated using control bore MB16WAW0005 EC levels, as outlined in GEMP Table 2-3. An exceedance is triggered if any monitoring bore shows a change outside of this range for two consecutive monitoring periods. The proportional change in EC between consecutive monitoring events for all monitoring bores and control bores is presented in Table 12 and 13.

In Q3, one proportional EC change within the Trigger Level 1 range was detected at bore MB19WAC0007 (Zone 2), with a 37% reduction in EC from the Q2 result. However, EC levels at MB19WAC0007 remained within the acceptable proportional change in Q4, meaning the Trigger Level 1 criteria was not met.

There were two missed water quality sampling events in 2024: MB21WAC0001 (Q1) and MB19WAC0007 (Q3). These incidents were raised internally and investigated upon identification (internal incident numbers: 2572977785_5087 and 2724332033_58743). The investigation found that incorrect field 'run' sheets were used during sampling, leading to the omission of pH field measurements and recording total dissolved solids (TDS) data instead of EC. TDS results were converted to EC to calculate the quarterly proportional change for the affected periods.

Corrective measures have been implemented to prevent missed and incorrect sampling events in the future. These include:

- Update to the Master Monitoring Scope of Works and associated field 'run' sheet to clearly identify and prioritize all monitoring activities related to MAR GEMP.
- Site Hydrogeologist to review run sheet completion and ensure field data is entered into Envirosys monthly.
- Monthly monitoring compliance reviews at the Site Water Group meeting, where bores at risk of missing quarterly sampling requirements will be identified and addressed before the end of the quarter.

These measures aim to improve data accuracy, ensure compliance, and prevent future sampling discrepancies.

Table 11: Zone 2 and Zone 3 monitoring bores - Trigger Criteria 1 and Threshold Criteria 1

Bore ID	Criteria		pH (pH units)				
Bore ID	Criteria	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	
		Zon	e 2				
MB16WAW0008	Trigger:	7.44	7.07	7.18	7.2	7.19	
MB19WAC0007	Under 6.5 or over 8 for two consecutive	7.89	7.56	NR	8.57	7.94	
MB21WAD0010	monitoring periods (not consistent with control	7.82	7.57	7.42	7.41	7.4	
MB21WAD0012	bore)	7.17	7.17	7.34	7.32	7.31	
		Zon	e 3				
MB16WAW0005		6.89	6.79	7.1	7.21	7.24	
MB16WAW0007	Thorabald	7.42	7.18	7.33	7.33	7.3	
MB22WAW0001	Threshold: Under 6 or over 8.5 for	6.89	6.88	7.69	7.1	7.12	
MB21WAC0001	two consecutive monitoring periods (<i>not</i>	6.74	NR	7.3	6.9	7	
MB21WAD0015	consistent with control bore)	7.5	7.25	7.39	7.37	7.38	
MB21WAD0017	bore)	7.66	7.41	7.21	7.1	7.24	
MB17WAW0001		6.87	6.51	7.01	7.7	7.65	
		Contro	I Bore				
MB16WAW0005		6.89	6.79	7.1	7.21	7.24	

Bold text -Trigger or Threshold exceedance.

NR - Not recorded.

Table 12: Zone 2 monitoring bores - compliance with EC Early Response Indicator 2 and Trigger Level 1

Bore ID	EC (µS/cm) I	EC (µS/cm) Proportional change from previous quarter							
Bore ID	Q1	Q2	Q3	Q4	Exceedances				
MB16WAW0008	-0.15%	1.47%	0.99%	-0.15%	No exceedances				
MB19WAC0007	0.50%	2.81%	-34.75%	11.84%	No exceedances				
MB21WAD0010	-0.18%	-0.92%	-1.03%	-0.28%	No exceedances				
MB21WAD0012	-0.15%	4.25%	-0.91%	0.28%	No exceedances				
WAC_M28		Not	drilled						
WAW_M16		Not	drilled		_				
WAW_M17		Not	drilled						
		Control	Bore						
MB16WAW0005	-0.12%	-13.95%	-0.43%	-0.07%					
Early Response Indicator 2	19.98%	6.05%	19.57%	19.93%					
(accepted ranges are indicated ± 20% of the	to	to	to	to					
control bore change)	-20.12%	-33.95%	-20.43%	-20.07%					
Trigger Level 1	49.88%	36.05%	49.57%	49.93%					
(accepted ranges are indicated ± 50% of the	to	to	to	to					
control bore change)	-50.12%	-63.95%	-50.43%	-50.07%					

Bold text – Early Response or Trigger exceedance.

NR – Not recorded.

Table 13: Zone 3 monitoring bores - compliance with EC Threshold Criteria

Table 13: Zone 3 monitoring bores - compliance with EC Threshold Criteria									
Bore ID	EC (µS/cm) I	Exceedances							
Bore ib	Q1	Q2	Q3	Q4	LACCECIATICES				
MB16WAW0005	-0.12%	-13.95%	-0.43%	-0.07%	No exceedances				
MB16WAW0007	-0.42%	-3.15%	-0.61%	-1.15%	No exceedances				
MB21WAD0017	0.44%	10.33%	-0.60%	-0.30%	No exceedances				
MB21WAD0015	0.12%	-4.26%	-0.12%	-0.48%	No exceedances				
MB21WAC0001	-13.99%	4.73%	0.93%	1.22%	No exceedances				
MB22WAW0001	7.28%	-5.02%	0.97%	-1.59%	No exceedances				
21WAW-M02	Not drilled	Not drilled	Not drilled	Not drilled					
WAW-M01	Not drilled	Not drilled	Not drilled	Not drilled					
MB17WAW0001	-7.09%	-20.41%	-0.08%	-0.58%	No exceedances				
		Control	Bore						
MB16WAW0005	-0.12%	-13.95%	-0.43%	-0.07%					
Trigger Level 2	49.88%	36.05%	49.57%	49.93%					
(accepted ranges are	to	to	to	to					
indicated ± 50% of the control bore change)	-50.12%	-63.95%	-50.43%	-50.07%					
Threshold Criteria 2	79.88%	66.05%	79.57%	79.93%					
(accepted ranges are indicated ± 80% of the	to	to	to	to					
control bore change)	-80.12%	-93.95%	-80.43%	-80.07%					

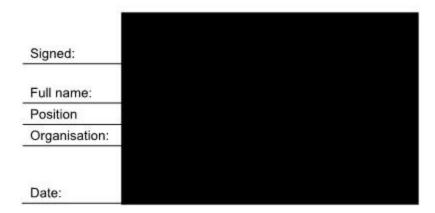
Bold text – Threshold exceedance. NR – Not recorded.

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: Water quality data for the managed aquifer recharge monitoring bores

Table 14: Zone 2 monitoring bores water quality quarterly results

Bore ID	Q4 2023		Q1 2024		Q2 2024		Q3 2024		Q4 2024	
	EC	рН	EC	рН	EC	рН	EC	рН	EC	рН
MB16WAW0008	1292	7.44	1290	7.07	1309	7.18	1322	7.2	1320	7.19
MB19WAC0007	1203	7.89	1209	7.56	1243	NR	811	8.57	907	7.94
MB21WAD0010	1085	7.82	1083	7.57	1073	7.42	1062	7.41	1059	7.4
MB21WAD0012	1366	7.17	1364	7.17	1422	7.34	1409	7.32	1413	7.31
WAC_M28		Not drilled								
WAW_M16		Not drilled								
WAW_M17		Not drilled								

Table 15: Zone 3 monitoring bores water quality quarterly results

Bore ID	Q4 2023		Q1 2024		Q2 2024		Q3 2024		Q4 2024	
	EC	рН	EC	рН	EC	рН	EC	рН	EC	рН
MB16WAW0005	1622	6.89	1620	6.79	1394	7.1	1388	7.21	1387	7.24
MB16WAW0007	1181	7.42	1176	7.18	1139	7.33	1132	7.33	1119	7.3
MB22WAW0001	1524	6.89	1635	6.88	1553	7.69	1568	7.1	1543	7.12
MB21WAC0001	1079	6.74	929	NR	972	7.3	981	6.9	993	7
MB21WAD0015	868	7.5	869	7.25	832	7.39	831	7.37	827	7.38
21WAW-M02		Not drilled								
WAW-M01		Not drilled								
MB21WAD0017	906	7.66	910	7.41	1004	7.21	998	7.1	995	7.24
MB17WAW0001	1635	6.87	1519	6.51	1209	7.01	1208	7.7	1201	7.65

Table 16: Boundary bore monitoring bore water quality quarterly results

Bore ID	Q4 2023		Q1 2024		Q2 2024		Q3 2024		Q4 2024	
	EC	рН	EC	рН	EC	рН	EC	рН	EC	рН
MB18WAW0003	1971	7.47	1970	7	1863	7.11	1868	7.16	1862	7.13
MB19WAW0006	1172	8.22	1171	8.34	1223	8.02	1218	8.01	1231	8
MB21WAD0013	1328	7.44	1325	7.01	1301	7.09	1314	7.11	1312	7.11
21TURB-M01	Not drilled									