19 December 2024

Evolution MINING
Mungari
ACN 002 124 745
Mungari Operations
[redacted]
[redacted]
www.evolutionmining.com.au

[redacted]

Department of Water and Environmental Regulation
Prime House, 8 Davidson Terrace
JOONDALUP WA 6919

[redacted]

RE: AMENDMENT TO LICENCE L7750/2001/10 – TSF Cell 3 Stage 3

Evolution Mining (Mungari) Pty Ltd provides The Department of Water and Environmental Regulation (The Department) the below additional information to support the L7750/2001/10 Licence Amendment Application for operation of TSF Cell 3 Stage 3, constructed under W6364/2020/1.

Licence Amendment Application Form Completion Matrix

The completed sections within the Licence Amendment Application Form have been submitted as per the requirements of the Completion Matrix as shown in **Table 1**.

Table 1: Completion Matrix for the required and submitted sections of the Application Form for the L7750/2001/10 Licence Amendment

Application form section	Amendment	Submitted (Y/N)
Part 1: Application type	●	Y
Part 2: Applicant details	●	Y
Part 3: Premises details	Δ	Y
Part 4: Proposed activities	●	Y
Part 5: Index of Biodiversity Surveys for Assessment and Index of Marine Surveys for Assessment	If required	Y
Part 6: Other DWER approvals	●	Y
Part 7: Other approvals and consultation	●	Y
Part 8: Applicant history	Δ	Y
Part 9: Emissions, discharges, and waste	Δ	Y
Part 10: Siting and location	Δ	Y
Part 11: Submission of any other relevant information	If required	Y
Part 12: Category checklist(s)	●	Y
[redacted]	●	Y
Part 14: Commercially sensitive or confidential information	●	Y
Part 15: Submission of application	●	Y

Application form section	Amendment	Submitted (Y/N)
Part 16: Declaration and signature	•	Y
[redacted]	N/A	Y
[redacted]	N/A	Y
Attachment 1C: Authorisation to act as a representative of the occupier	•	Y
Attachment 2: Premises map/s	Δ	Y
Attachment 3A: Environmental commissioning plan	If required	N
Attachment 3B: Proposed activities	Δ	Y
Attachment 3C: Map of area proposed to be cleared (only applicable if clearing is proposed)	•	N
Attachment 3D: Additional information for clearing assessment	If required	N/A
Attachment 4: Marine surveys (only applicable if marine surveys included in application)	•	N/A
Attachment 5: Other approvals and consultation documentation	Δ	Y
Attachment 6A: Emissions and discharges	If required	N/A
Attachment 6B: Waste acceptance	If required	N/A
Attachment 7: Siting and location	Δ	N/A
Attachment 8: Additional information submitted	If required	Y
Attachment 9: Category-specific checklist(s)	If required	N/A
[redacted]	•	Y
Attachment 11: Request for exemption from publication	If required	N/A

Key:

•	*Must be submitted.*
Δ	*To the extent changed / required in relation to the amendment.*
N/A	*Not required with application, but may be requested subsequently depending on DWER records.*
"If required"	*Sections for applicants to determine.*

Summary of Previously Provided Compliance Documents

Table 2 below is a summary of previously provided compliance documents for the Works Approval W6364/2020/1. As The Department has already deemed the previously provided construction reports as sufficient evidence of compliance, this letter will not repeat TSF Cell 3 Stage 3's complete design specifications. TSF Cell 3 is an operational cell of the four-celled facility, constructed with starter embankments to an elevation of 347.4 mRL under W6364/2020/1. The Stage 3 embankment raise have been completed to an elevation of 350.7 mRL

It is noted that TSF Cell 3 achieved compliance with all Conditions of the Works Approval, as detailed in *Time Limited Operations Compliance Report – TSF Cell 3 Stage 2*. This report demonstrates that the premises has met operational specifications, and Evolution requests that The Department applies the findings of the Works Approval assessment in its Licence decision.

Table 2: Previously Provided Compliance Documents for Works Approval W6364/2020/1

Condition(s)	Compliance Document	Submission Date
8 and 9	Well Construction Report – TSF Monitoring Bores 8 to 15	26 October 2020
1 and 4	Critical Containment Infrastructure Report – TSF Cell 3	14 May 2021
3 and 6	Environmental Compliance Report – TSF Cell 3	06 June 2021
18 and 19	Time Limited Operations Compliance Report – TSF Cell 3	01 December 2021
1 and 4	Critical Containment Infrastructure Report – TSF Cell 4	11 February 2022
3 and 6	Environmental Compliance Report – TSF Cell 4	21 February 2022
18 and 19	Time Limited Operations Compliance Report – TSF Cell 4	30 August 2022
1 and 4	Critical Containment Infrastructure Report – TSF Cell 3 Stage 2	19 January 2023
18 and 19	Time Limited Operations Compliance Report – TSF Cell 3 Stage 2	08 November 2023
1 and 4	Critical Containment Infrastructure Report – TSF Cell 4 Stage 2	06 December 2023
18 and 19	Time Limited Operation Compliance Report – TSF Cell 4 Stage 2	03 October 2024
1 and 4	Critical Containment Infrastructure Report – TSF Cell 3 Stage 3	28 October 2024

TSF Cell 3 Stage 3 Time Limited Operations

At the time of submission of this Licence amendment application, deposition of tailings into TSF Cell 3 Stage 3 has not commenced. If deposition of tailings commences prior to TSF Cell 3 Stage 3 being approved under Licence L7750/2001/10, TSF operations will be subject to the W6364/2020/1 time limited operations monitoring program detailed in **Table 3.** A Time Limited Operations Compliance Report will be submitted within 30 calendar days of the amended Licence 7750/2001/10 being granted.

Table 3: TSF Cell 3 Stage 3 Time Limited Operations Monitoring Program

Area	Parameter	Frequency
Tailings Storage Facility Cell 3	• Outer perimeter area and embankments • Condition of roads and ramps • Tailings pipeline integrity • Tailing behavior at deposition point • Visual check on tailings and water levels versus embankment crest (freeboard) • Offtake location • Blockage or damage of discharge • Monitoring instrumentation	Daily
TSF decant system	• Size of supernatant pond • Location of supernatant pond • Return water pipeline integrity • Blockage of decant tower • Visual check on decant tower operation	Daily
TSF underdrainage, toe-drains, and seepage trench	• Blockage of towers/pipes • Visual checks of water level in towers/pipes • Visual check of pipeline integrity	Daily
TSF basin	• Water volume and level • Tailings beach-head level	Each weekly period
Tailings	• Tailings solids (tonnes) • Water in tailings (tonnes or m3) • Average tailings flow (m3/s)	Each weekly period
Water	• Outflow from decant pumps • Outflow from toe drain and underdrainage • Specific gravity of decant water	Daily
Standpipe and vibrating wire piezometers	• Standing water level • Pore-water pressure	Each monthly period
Monitoring Bores MB-08 to MB-15	• Standing water level (mgbl) • pH (pH unit) • Electrical conductivity (µcm/S) • Total dissolved solids (mg/L)	Each monthly period
Monitoring Bores MB-08 to MB-15	• WAD cyanide (mg/L) • Total cyanide (mg/L)	Each quarterly period
Monitoring Bores MB-08 to MB-15	• Ca, Mg, Na, K, CO_3, Cl, SO_4, Al, As, Cd, Cr, Cu, Fe, Mn, Ni, Zn, Pb, Co (mg/L)	Each annual period

Latest Monitoring Results

Latest TSF monitoring results under Works Approval W6364/2020/1 and Licence L7750/2001/10 are displayed in **Figure *1***, **Figure *2***, **Figure *3***, **Figure *4***, **Table 4** and **Table 5** and below. This monitoring data has been provided to be considered in the Department's risk assessment for the use of the TSF.

The shallow monitoring bores for TSF-MB-06, TSF-MB-11, TSF-MB-14 and TSF-MB-15 were either dry or had insufficient water to sample for the reporting period. The shallow monitoring bores TSF-MB-02, TSF-MB-03, TSF-MB-04, TSF-MB-08, TSF-MB-09, TSF-MB-10, TSF-MB-12, and TSF-MB-13 were sampled in only a few months of the year. When not sampled, it was due to the bores being either dry or having insufficient water for sampling. TSF-MB-06 shallow monitoring bore was unable to sample in April due the bottom of the bore being wet.

The shallow monitoring bore TSF-MB-05 has missing TDS and EC values for October due to the readings being extremely high (>200,000). However, the bore was sampled in November, and the values returned to normal.

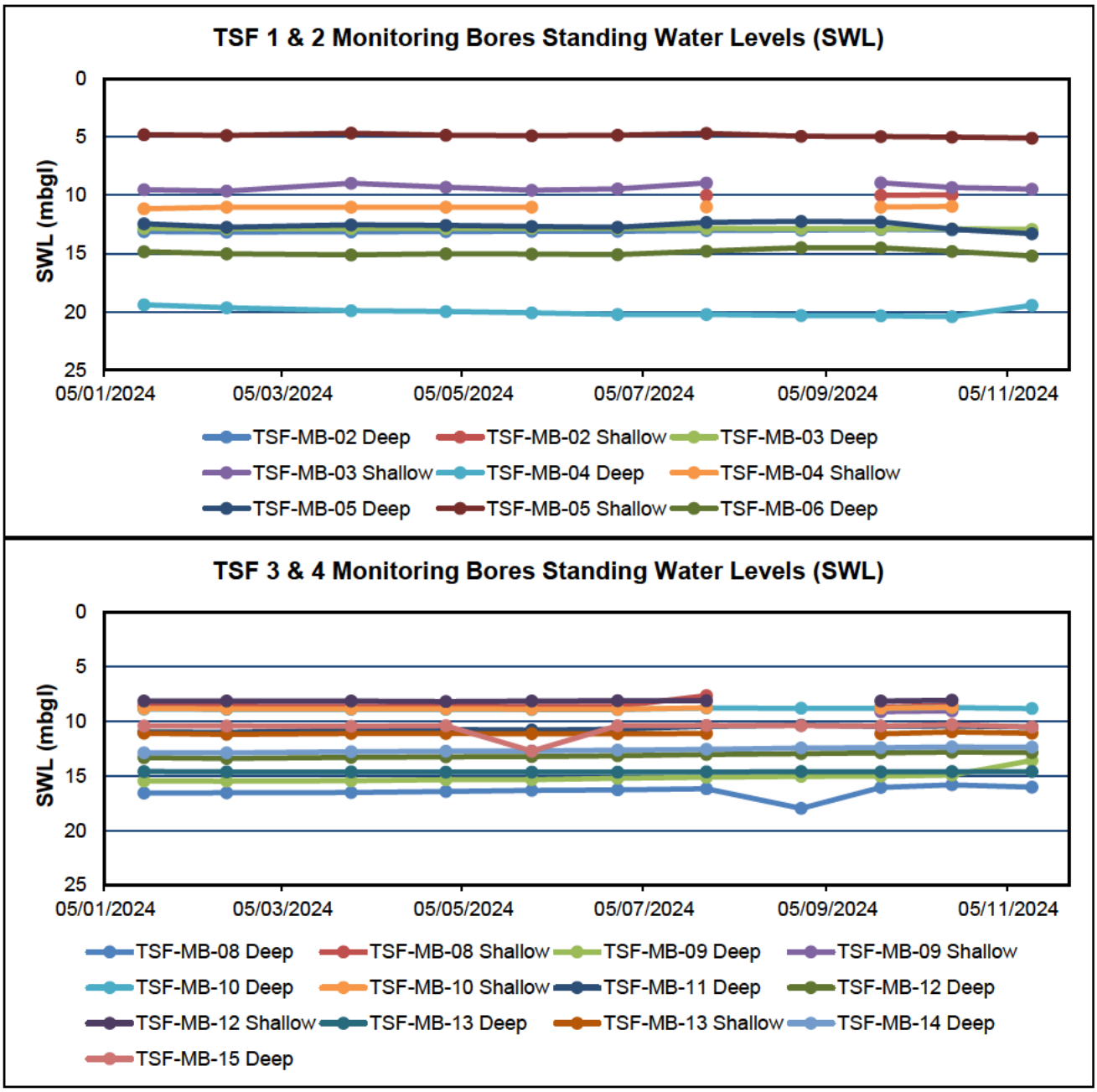

Figure 1: Mungari TSF - Monthly Standing Water Levels (SWL)

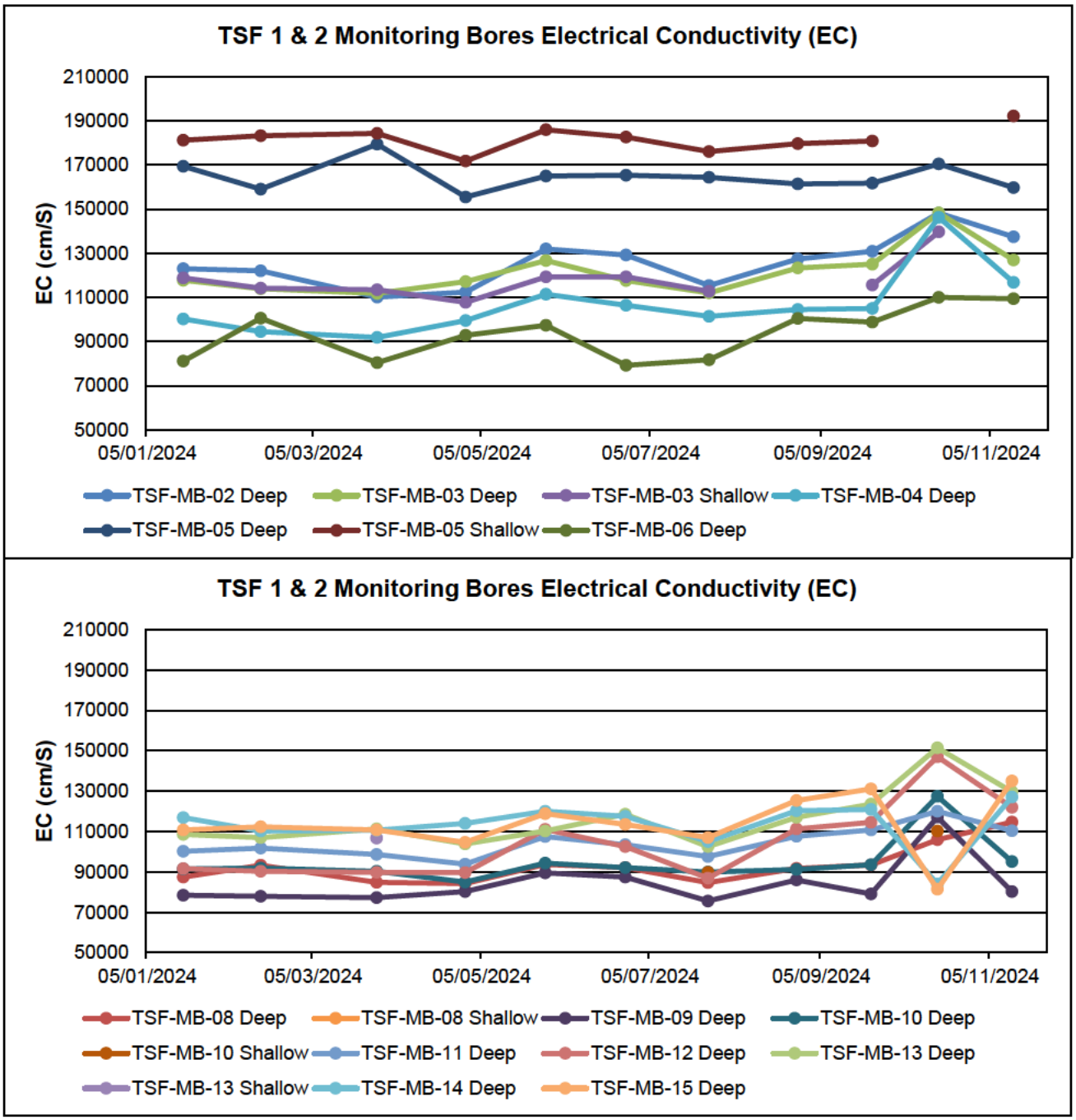

Figure 2: Mungari TSF - Monthly Electrical Conductivity

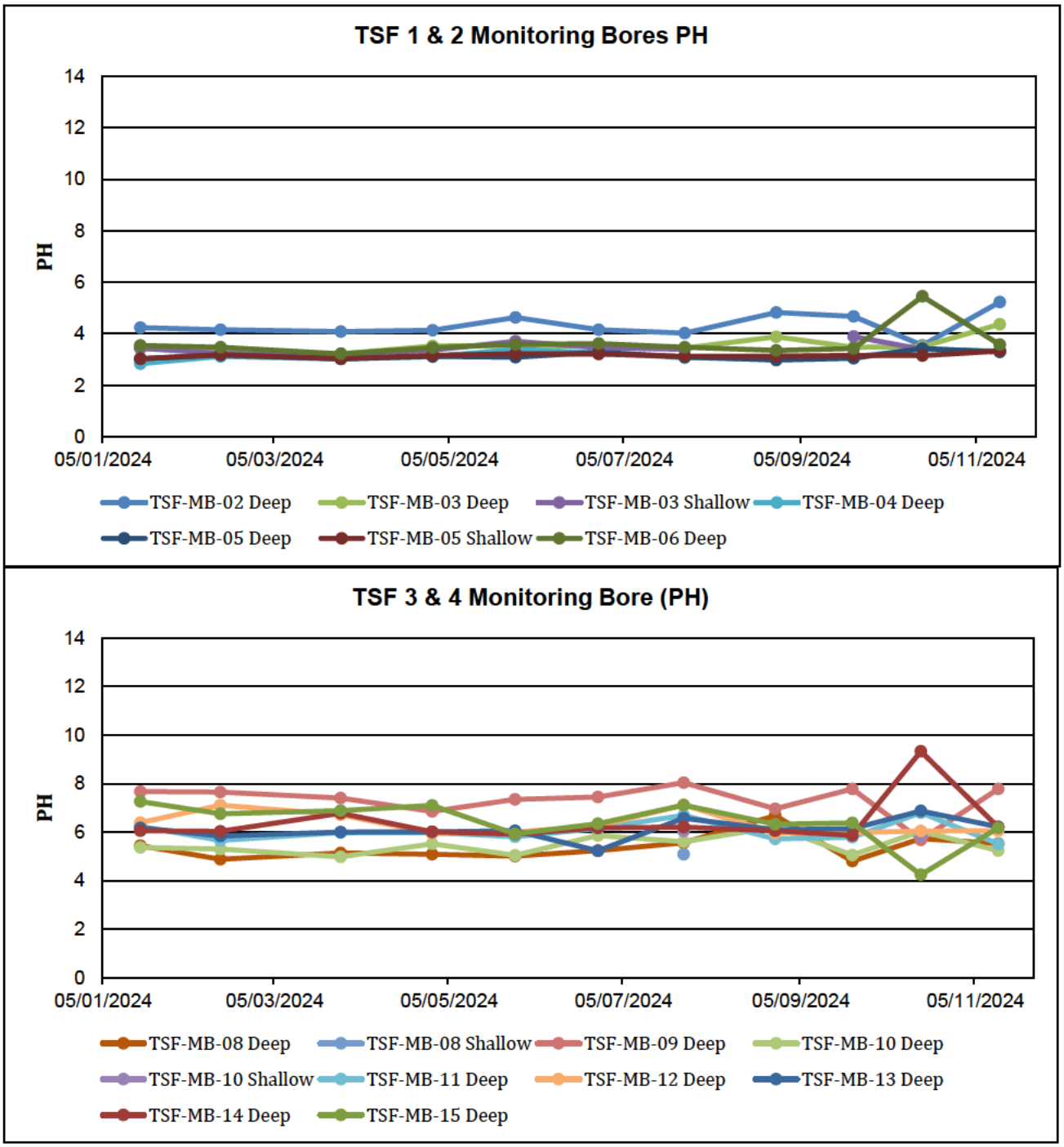

Figure 3: Mungari TSF - Monthly PH

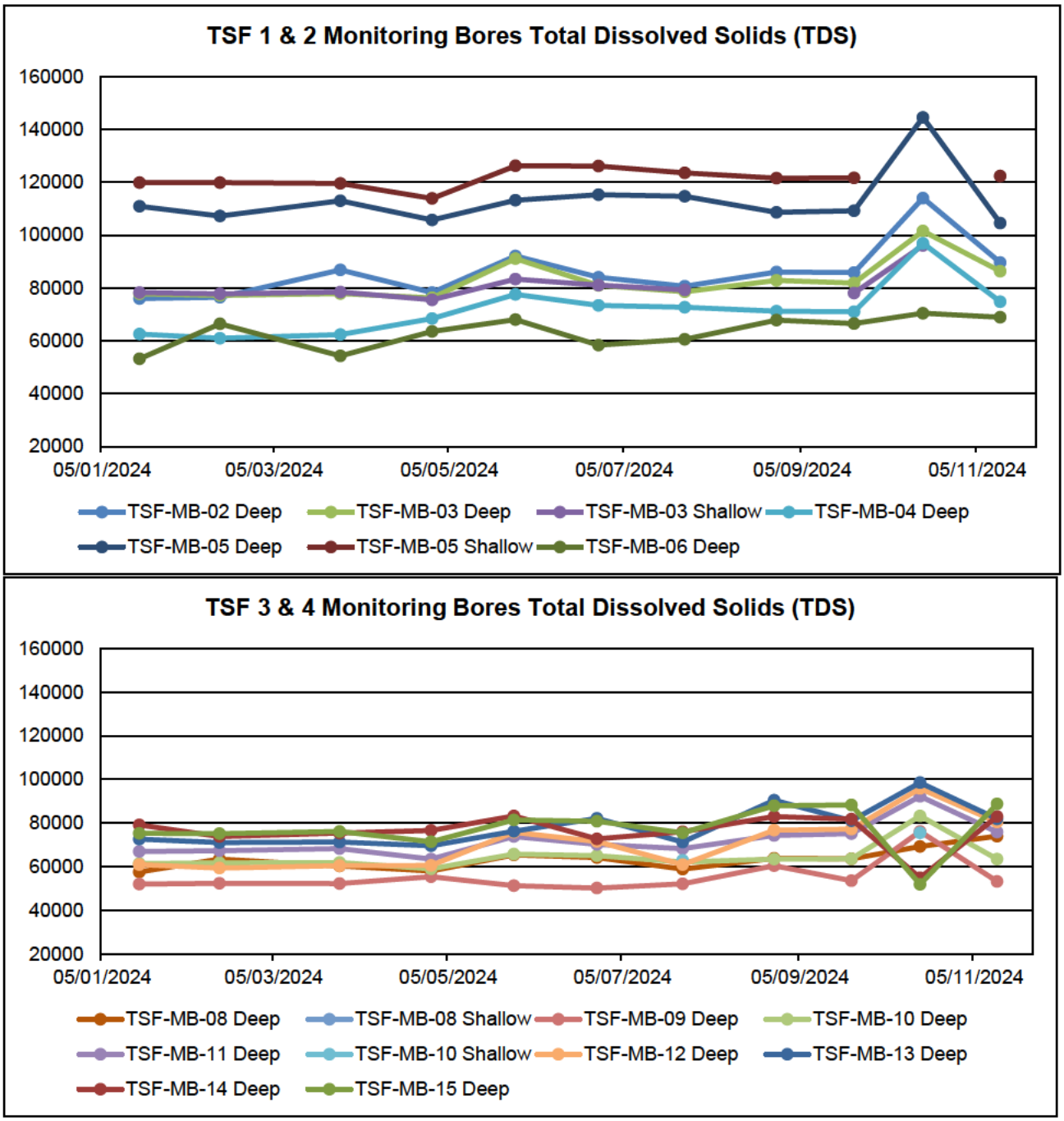

Figure 4: Mungari TSF - Monthly Total Dissolved Solids

Table 4: Mungari TSF Monitoring Bores Quarterly WAD and Total Cyanide

Bore ID	Q3 2023		Q4 2023		Q1 2023		Q2 2024	
	Total Cyanide (mg/L)	WAD Cyanide (mg/L)	Total Cyanide (mg/L)	WAD Cyanide (mg/L)	Total Cyanide (mg/L)	WAD Cyanide (mg/L)	Total Cyanide (mg/L)	WAD Cyanide (mg/L)
TSF-MB-02 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
TSF-MB-02 Shallow	IWS		DRY		DRY		DRY	
TSF-MB-03 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
TSF-MB-03 Shallow	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	IWS	
TSF-MB-04 Deep	0.168	<0.04	<0.04	<0.04	0.168	<0.04	0.266	<0.04
TSF-MB-04 Shallow	IWS		IWS		IWS		DRY	
TSF-MB-05 Deep	1.17	<0.04	0.837	<0.04	1.17	<0.04	1.12	<0.04
TSF-MB-05 Shallow	1.4	<0.04	1.08	<0.04	1.4	<0.04	1.72	<0.04
TSF-MB-06 Deep	0.103	<0.04	0.128	<0.04	0.103	<0.04	0.083	<0.040
TSF-MB-06 Shallow	IWS		IWS		DRY		DRY	
TSF-MB-08 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040
TSF-MB-08 Shallow	IWS		IWS		IWS		DRY	
TSF-MB-09 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040
TSF-MB-09 Shallow	DRY		DRY		DRY		DRY	
TSF-MB-10 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040
TSF-MB-10 Shallow	IWS		IWS		IWS		DRY	
TSF-MB-11 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040
TSF-MB-11 Shallow	IWS		DRY		DRY		DRY	
TSF-MB-12 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040
TSF-MB-12 Shallow	IWS		IWS		IWS		DRY	
TSF-MB-13 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040
TSF-MB-13 Shallow	IWS		IWS		IWS		IWS	
TSF-MB-14 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040
TSF-MB-14 Shallow	IWS		DRY		DRY		DRY	
TSF-MB-15 Deep	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040
TSF-MB-15 Shallow	IWS		IWS		DRY		DRY	

Table 5: Mungari TSF Annual Multi-Element Groundwater Quality

Bore ID	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	CO_3 (mg $CaCO_3$/L)	Cl (mg/L)	SO_4 (mg/L)	Al (mg/L)	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Ni (mg/L)	Zn (mg/L)	Pb (mg/L)	Co (mg/L)
TSF-MB-02 Deep	362	5920	36700	268	<1	54800	8710	0.79	<0.021	<0.0021	<0.021	<0.021	1.42	5.02	0.122	<0.105	<0.021	0.046
TSF-MB-03 Deep	401	6020	34600	193	<1	53000	9520	4.51	<0.021	<0.0021	<0.021	<0.021	<1.05	0.748	0.066	<0.105	<0.021	<0.021
TSF-MB-03 Shallow	832	3190	28400	306	<1	43100	4420	66.3	<0.021	<0.0021	<0.021	0.024	<1.05	1.35	0.286	0.117	0.18	0.172
TSF-MB-04 Deep	2550	2840	44300	476	<1	78900	3480	21	<0.021	<0.0021	<0.021	<0.021	1.53	14.5	0.238	<0.105	0.329	0.524
TSF-MB-05 Deep	3640	2990	57400	635	<1	97600	3470	8.79	<0.021	<0.0021	<0.021	<0.021	4.27	22	0.273	<0.105	0.381	0.747
TSF-MB-05 Shallow	2860	3060	48100	490	<1	85100	3660	10.5	<0.021	<0.0021	<0.021	<0.021	1.49	16	0.218	<0.105	0.406	0.593
TSF-MB-06 Deep	549	2980	26400	265	<1	40500	3780	42.1	<0.021	<0.0021	<0.021	0.025	1.19	2.51	0.239	0.152	0.354	0.149
TSF-MB-08 Deep	660	4780	28700	186	<1	43600	7850	0.23	<0.021	<0.0021	<0.021	<0.021	<1.05	1.98	0.192	0.131	<0.021	<0.021
TSF-MB-09 Deep	362	3340	19800	159	<1	32200	5410	0.29	<0.010	<0.0010	<0.010	0.021	<0.52	0.5	<0.010	<0.052	<0.010	<0.010
TSF-MB-10 Deep	1000	3640	22800	207	<1	35900	7250	<0.10	<0.010	<0.0010	<0.010	0.016	<0.52	0.633	0.063	0.077	<0.010	0.013
TSF-MB-11 Deep	749	4840	28700	175	<1	44400	8040	1.88	<0.021	<0.0021	<0.021	<0.021	1.64	0.66	0.026	<0.105	<0.021	<0.021
TSF-MB-12 Deep	581	5720	30500	177	<1	49800	10100	0.21	<0.021	<0.0021	<0.021	<0.021	<1.05	2.9	0.048	<0.105	<0.021	0.05
TSF-MB-13 Deep	445	6230	31700	191	<1	49400	10300	<0.21	<0.021	<0.0021	<0.021	<0.021	<1.05	1.87	0.037	<0.105	<0.021	<0.021
TSF-MB-14 Deep	739	6470	32700	207	<1	51100	11700	<0.21	<0.021	<0.0021	<0.021	<0.021	<1.05	3.85	0.029	<0.105	<0.021	<0.021
TSF-MB-15 Deep	1240	4780	36100	254	<1	54000	7110	<0.21	<0.021	<0.0021	<0.021	<0.021	2.13	6.4	<0.021	<0.105	<0.021	<0.021

Proposed Licence Changes

Evolution proposes the following changes to the conditions of L7750/2001/10 listed in **Table 6** These amended conditions will allow deposition into TSF Cell 3 Stage 3 using the existing licensed controls for TSF operations. No additional assessments or additional controls have been identified which may be relevant to the final risk assessment for the Licence amendment.

Table 6: Proposed Changes to L7750/2001/10 conditions

<table>
<tr><th>Condition</th><th>Proposed Change</th></tr>
<tr><td>8</td><td>Include Cell 3 Stage 3 within Table 3:
Table 3: Staged operating heights for the TSF
<table>
<tr><th>TSF Cell</th><th>Construction height (m)</th><th>Operating height (m)</th></tr>
<tr><td>TSF Cell 1 (Stage 5)</td><td>360.8 mRL</td><td>360.5 mRL</td></tr>
<tr><td>TSF Cell 2 (Stage 5)</td><td>360.8 mRL</td><td>360.5 mRL</td></tr>
<tr><td>TSF Cell 3 (Stage 3)</td><td>350.7 mRL</td><td>350.4 mRL</td></tr>
<tr><td>TSF Cell 4 (Stage 2)</td><td>349.1 mRL</td><td>348.8 mRL</td></tr>
</table></td></tr>
</table>

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