



## Annual Audit Compliance Report Form

*Environmental Protection Act 1986, Part V Division 3*

Once completed, please submit this form either via email to [info@dwer.wa.gov.au](mailto:info@dwer.wa.gov.au), or to the below postal address:

Department of Water and Environmental Regulation  
Locked Bag 10  
Joondalup DC WA 6919

Section A – Licence details			
Licence number:	L9335/2022/1	Licence file number:	DER2022/000219
Licence holder name:	Thunderbird Operations Pty Ltd		
Trading as:			
ACN:	611 351 743		
Registered business address:	Level 2, 41-47 Colin Street West Perth WA 6005		
Reporting period:	14 / 12 / 2023 to 13 / 12 / 2024		

Section B – Statement of compliance with licence conditions
Did you comply with all of your licence conditions during the reporting period? (please tick the appropriate box)
<input type="checkbox"/> Yes – please complete: <ul style="list-style-type: none"><li>section C;</li><li>section D (if required); and</li><li>sign the declaration in Section F.</li></ul>
<input checked="" type="checkbox"/> No – please complete: <ul style="list-style-type: none"><li>section C;</li><li>section D (if required);</li><li>section E; and</li><li>sign the declaration in Section F.</li></ul>

Section C – Statement of actual production	
Provide the actual production quantity for this reporting period. Supporting documentation is to be attached.	
Prescribed premises category	Actual production quantity
08 Mineral Sands Mining or Processing	2,499,396
54 Sewage Facility	< 200 m <sup>3</sup> /day

Section D – Statement of actual Part 2 waste discharge quantity	
Provide the actual Part 2 waste discharge quantity for this reporting period. Supporting documentation is to be attached.	
Prescribed premises category	Actual Part 2 waste discharge quantity
NR	NR

Section E – Details of non-compliance with licence condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:	2	Date(s) of non-compliance:	04/2023
Details of non-compliance:			
Multiple exceedances of the concentration limit listed for total Nitrogen and total Phosphorus have been identified during the monthly effluent sampling for WWTP 1 and 2. Please see figures 1-4 below. WWTP 1 has not been able to be sampled since October 2023 due to ongoing remedial works being undertaken on a pump in proximity to the sample point.			
What was the actual (or suspected) environmental impact of the non-compliance?			
<b>NOTE</b> – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.			
Although the concentration limits were exceeded, the discharge volumes were well below the licensed production capacity of each facility, meaning the loading limit during the licence period has not been exceeded. Therefore, the actual environmental impact of the concentration exceedances is deemed to be negligible.			
Cause (or suspected cause) of non-compliance:			
A third-party audit of both WWTP systems was provided to Thunderbird by Aquasol on the 27/07/23. A primary causal factor identified during the audit was that the current filtration system is too coarse and would not be able to achieve reductions in nutrient concentrations as required by the licence. Primary treatment was also found to be inefficient at removing solids from the processing circuit hence adding to the nutrient load prior to filtration, further inhibiting the systems ability to perform to specifications.			
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:			
Aquasol have been engaged to implement the remedial actions recommended in their report. At the time of preparing the AACR these works were ongoing, pump failures in the system had delayed the remedial works but it is hoped that by the end of Q1 2024 that both units should be operating within the licence conditions.			
Was this non-compliance previously reported to DWER?			
<input checked="" type="checkbox"/> Yes, and			
<input type="checkbox"/> Reported to DWER verbally		Date:    /    /	
<input checked="" type="checkbox"/> Reported to DWER in writing		Date: 11 / 09 / 2023	

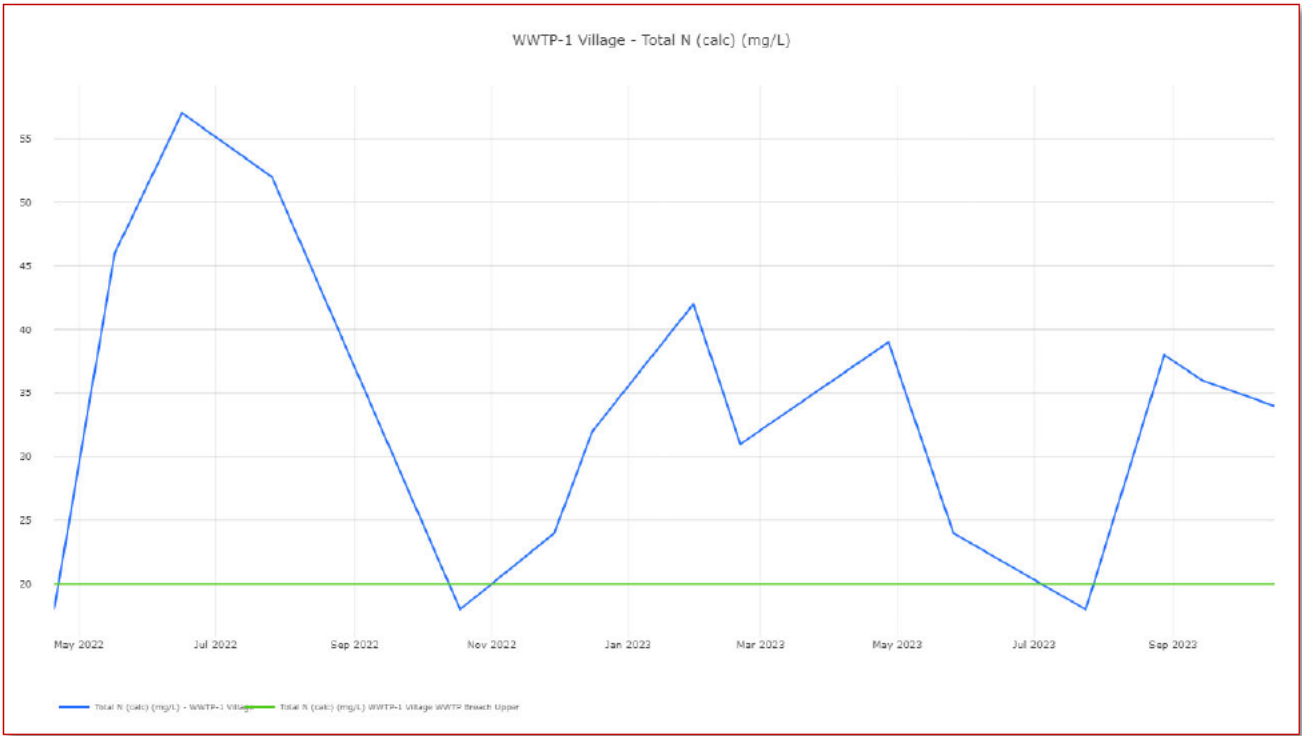


Figure 1: Total Nitrogen at WWTP1.

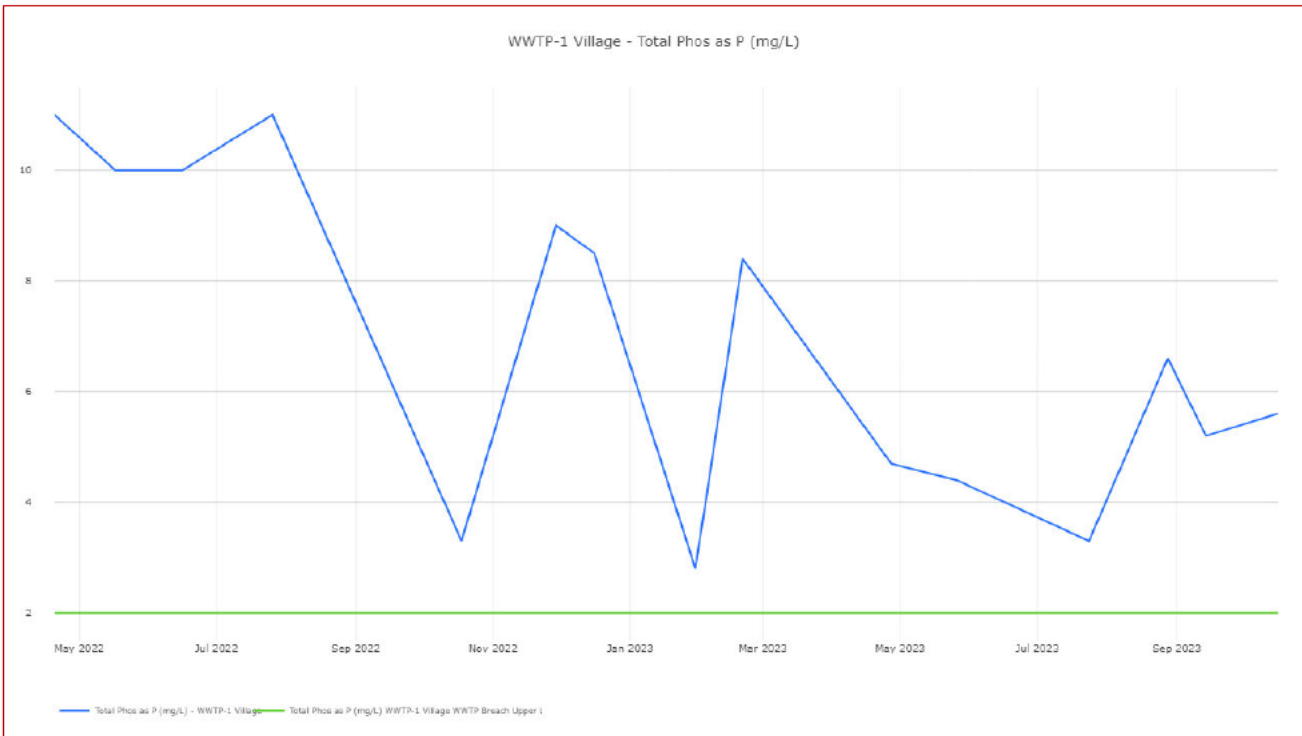


Figure 2: Total Phosphorus at WWTP1.

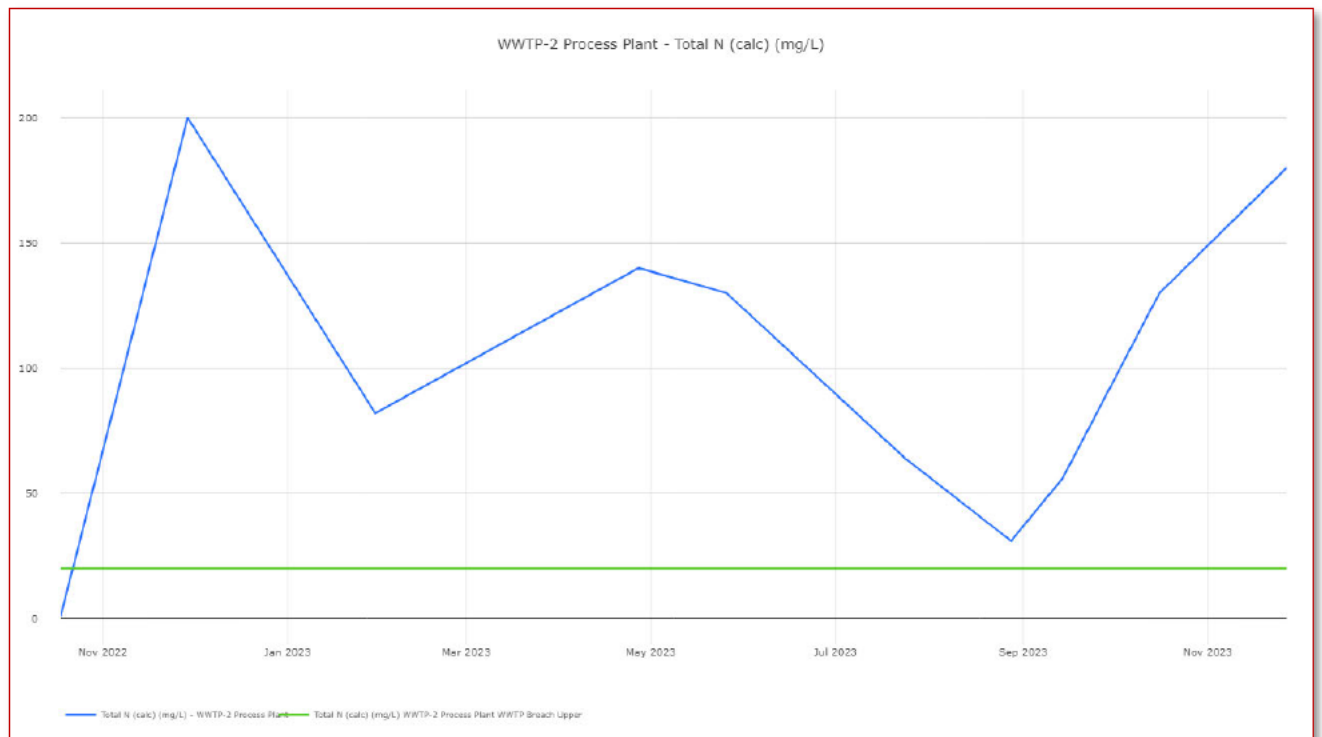


Figure 3: Total Nitrogen at WWTP2.

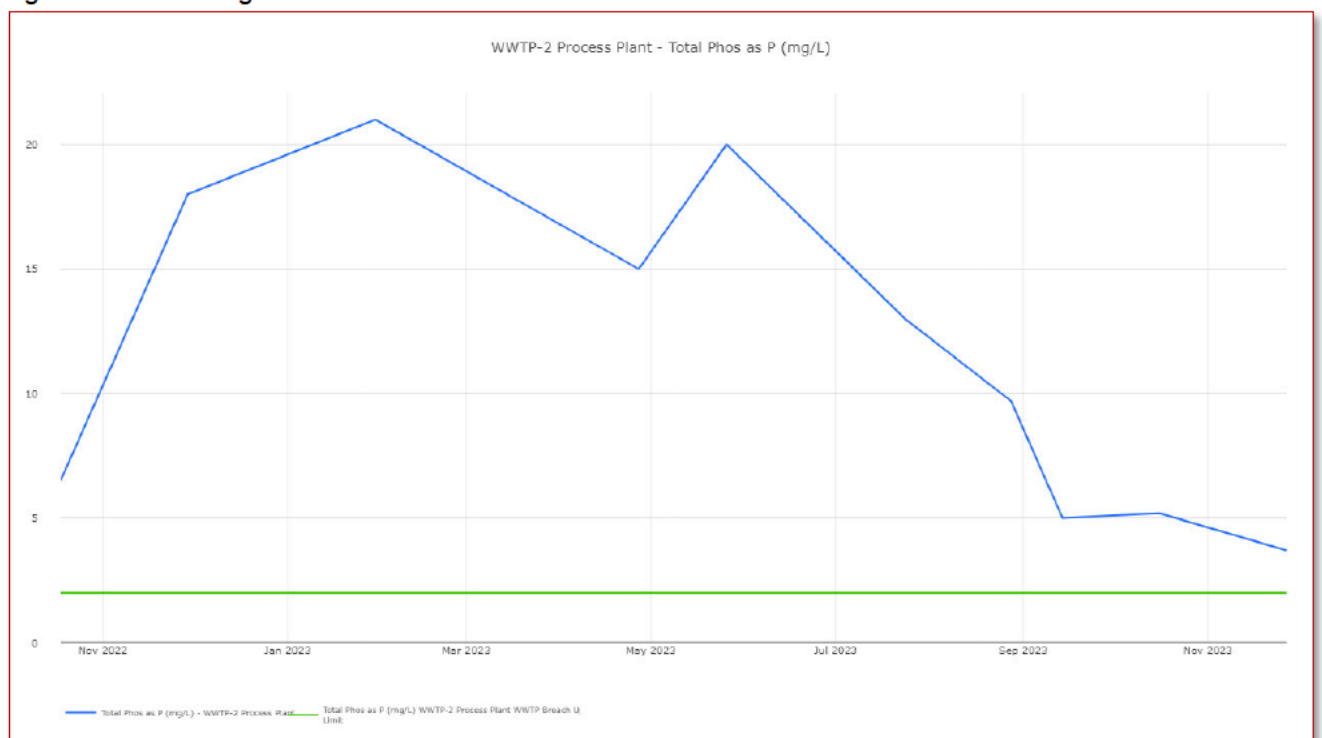
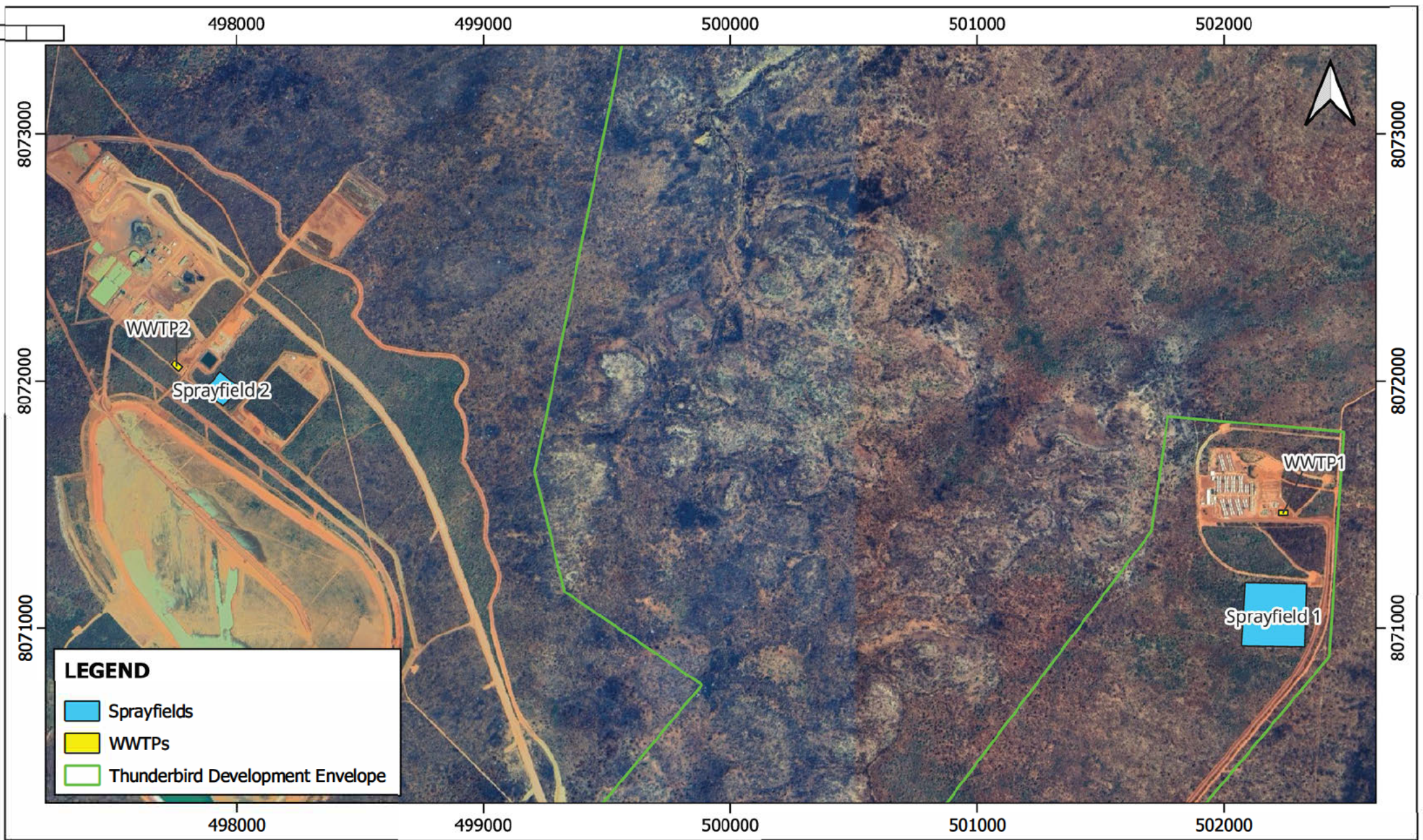



Figure 4: Total Phosphorus at WWTP2.




**LEGEND**

-  Sprayfields
-  WWTPs
-  Thunderbird Development Envelope

Scale: 1/20000  
Original Size: A4  
Datum: GDA94 / MGA zone 51  
Date: 16/01/2024

0      0.5      1 km



Thunderbird Mineral Sands Project  
Village and Process Plant WWTP

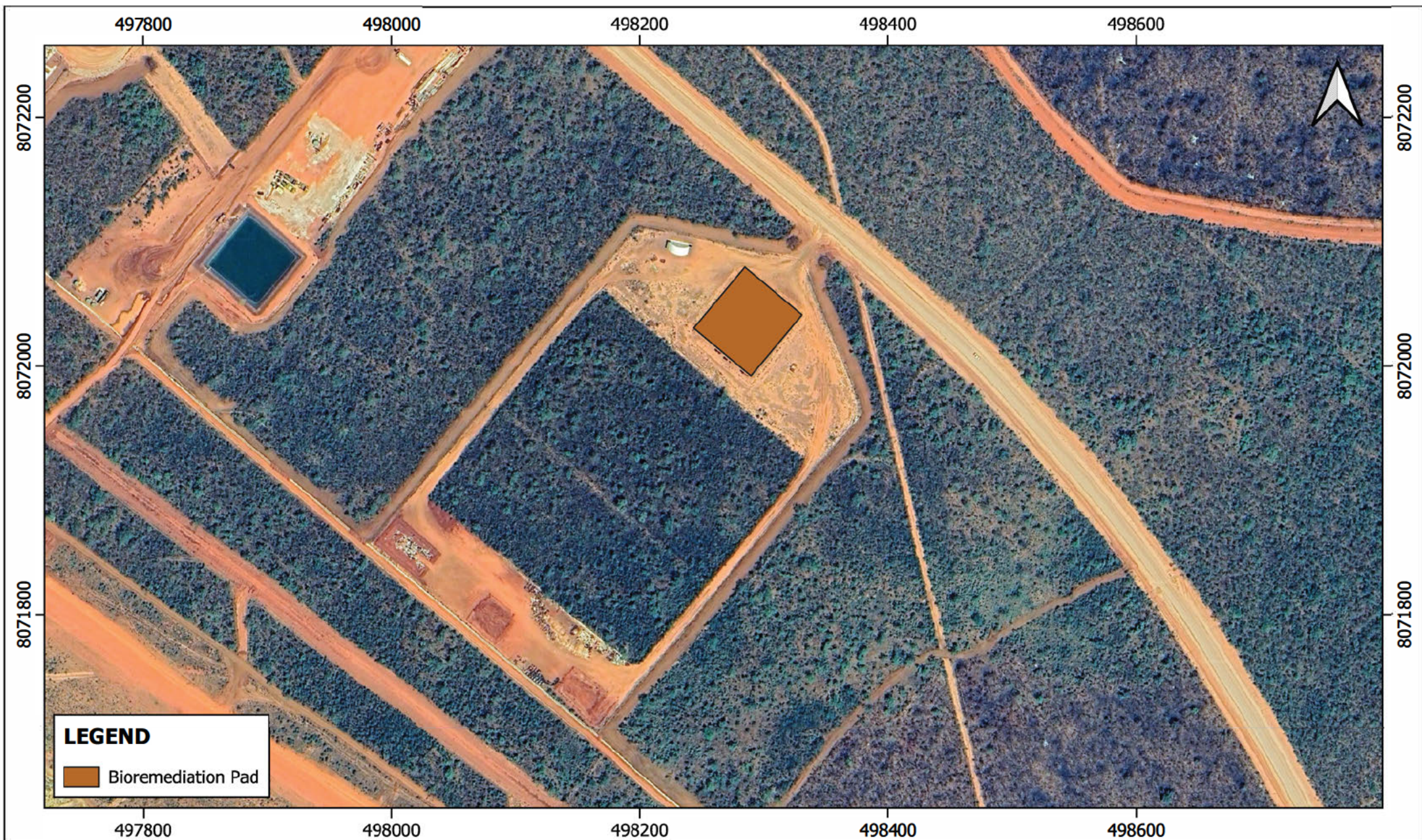
**Figure 5**  
**WWTP & Sprayfield**  
**Locations**

Kimberley Mineral Sands  
Thunderbird Operations Pty Ltd



**KIMBERLEY**  
MINERAL SANDS  
THUNDERBIRD OPERATIONS PTY LTD

Section E – Details of non-compliance with licence condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:	3	Date(s) of non-compliance:	14/09/2023
Details of non-compliance:			
Following a 15,000 L diesel spill at the Thunderbird village 1,500 m <sup>3</sup> of contaminated soil was deposited in cell 2 of the Thunderbird Bioremediation facility. This volume exceeds the licensed quantity limit of 625 m <sup>3</sup> per cell by 875 m <sup>3</sup> .			
What was the actual (or suspected) environmental impact of the non-compliance?			
<b>NOTE</b> – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.			
<p>The bioremediation facility is lined with HDPE liner to limit the potential for any contaminant migration. The side walls of the entire facility have also been raised by an additional 500 mm to ensure that the additional contaminated material is contained in the event of a significant rain event. A dewatering procedure using dewatering bags to reduce hydrocarbon concentrations is also in place in the event of significant rain.</p> <p>The contaminated material is currently undergoing treatment with microbe infused material supplied by Enretech Pty Ltd. This treatment enhances contaminant consumption and will enable the material to be safely reused on site. Full reduction of contaminants is expected to be completed by April 2024 and will be confirmed by follow up sampling.</p> <p>Given the controls and treatments in place the environmental impact from this non-compliance is deemed to be negligible.</p>			
Cause (or suspected cause) of non-compliance:			
The diesel spill at the village is the sole cause of this non-compliance.			
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:			
Actions listed above detail containment and treatment of contaminated material to minimise any adverse environmental effects.			
Was this non-compliance previously reported to DWER?			
<input checked="" type="checkbox"/> Yes, and			
<input type="checkbox"/> Reported to DWER verbally		Date:    /    /	
<input checked="" type="checkbox"/> Reported to DWER in writing		Date: 12 / 10 / 2023	



Scale: 1/4000  
 Original Size: A4  
 Datum: GDA94 / MGA zone 51  
 Date: 11/06/2023

0 100 200 m

Thunderbird Mineral Sands Project

Landfill & Bioremediation Pad

**Figure 6**

**Bioremediation Pad**  
**Location**

Kimberley Mineral Sands  
 Thunderbird Operations Pty Ltd

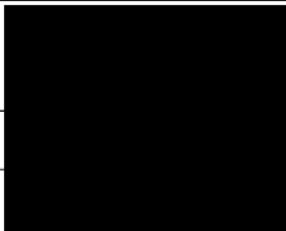

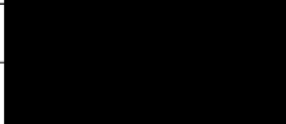
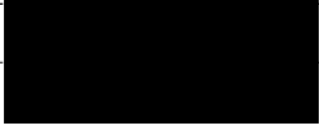
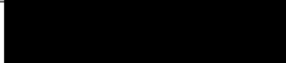

 **KIMBERLEY**  
 MINERAL SANDS

THUNDERBIRD OPERATIONS PTY LTD

## Section F – Declaration

I / We declare that the information in this Annual Audit Compliance Report is true and correct and is not false or misleading in a material particular<sup>1</sup>.

I / We consent to the Annual Audit Compliance Report being published on the Department of Water and Environmental Regulation's (DWER) website.

Signature <sup>2</sup> :		Signature:	
Name: (printed)		Name: (printed)	
Position:		Position:	
Date:	16/01/2024	Date:	16/01/2024
Seal (if signing under seal):			

<sup>1</sup> It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular.

<sup>2</sup> AACRs can only be signed by the licence holder or an authorised person with the legal authority to sign on behalf of the licence holder.