Government of Western Australia
Department of Water and Environmental Regulation

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, 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:	L6826/1994/13	Licence file number:	DER2014/000604
Licence holder name:	Ausvision Rural Services Pty Ltd		
Trading as:	Beaufort River Meats		
ACN:	93 106 075 763		
Registered business address:	46 Macri Road, Beaufort River, WA, 6394		
Reporting period:	01 / 01 / 2024 **to** 31 / 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)

☐ Yes – please complete:
- section C;
- section D (if required); and
- sign the declaration in Section F.

☒ No – please complete:
- section C;
- section D (if required);
- section E; and
- sign the declaration in Section F.

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
15- Abattoir 55- Livestock saleyard or holding pen	369,474 animals slaughtered with a liveweight of 12,996 tonnes

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

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:	Annual period

Details of non-compliance:

Emission of treated wastewater to land:

- Total nitrogen loading rate exceeded annual Licence limit – 261 kg/ha/yr (limit 180 kg/ha/yr)

Detailed data is presented in Table 1 below.

Table 1: Emissions to land

Month of 2024	Number of kills	Irrigation (kL)	TN (mg/L)	TP (mg/L)	N Input (kg/ha)	P input (kg/ha)
January	30,383	4,008	33	22	8.8	5.9
February	35,788	3,514	38	22	8.9	5.2
March	31,067	4,995	88	29	29.3	9.7
April	32,662	3,894	110	24	28.6	6.2
May	40,669	6,920	110	18	50.7	8.3
June	24,166	3,511	93	20	21.8	4.7
July	5,895	2,207	80	15	11.8	2.2
August	25,373	5,800	81	21	31.4	8.1
September	33,925	5,643	100	22	37.6	8.3
October	40,339	3,760	72	29	18.0	7.3
November	40,270	1,351	80	27	7.2	2.4
December	28,937	2,075	50	28	6.9	3.9
Total	**369,474**	**47,678**	**-**	**-**	**261**	**72**

What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

The environmental impact is expected to be minimal to none.

The premises is not located within a proclaimed water area nor is it near any public drinking water source areas. Past investigative drilling estimated groundwater depth to be at least 50 metres below ground level, making nutrient leaching into natural water resources highly unlikely.
Additionally, the pasture within the irrigation areas shows no signs of excessive nutrient accumulation, such as stunted root growth, leaf burn, or plant death. The pasture consists of Kikuyu grass, a perennial species known for its strong response to applied nitrogen and phosphorus.

According to the Kikuyu Factsheet from Local Land Services (NSW Government), Kikuyu growth rates typically range from 40 to 60 kg DM/ha/day, though they can vary between 0 and 160 kg DM/ha/day depending on weather conditions.

On-site, irrigation is routinely applied and evenly distributed, ensuring optimal conditions for pasture growth. Based on this management practice, it is reasonable to assume an annual

Section E – Details of non-compliance with licence condition

average Kikuyu growth rate of approximately 80 kg DM/ha/day within the irrigation areas. This assumption reflects the consistent availability of water and nutrients from irrigation, supporting sustained growth over the year.

Using this growth rate, Kikuyu is expected to remove:

- 700 kg/ha/yr of nitrogen (80 kg DM/ha/day × 365 days ÷ 1000 × 24 kg/tDM)
- 90 kg/ha/yr of phosphorus (80 kg DM/ha/day × 365 days ÷ 1000 × 3 kg/tDM)

With this uptake capacity, Kikuyu is expected to absorb most, if not all, of the nutrients applied through irrigation, preventing excess nutrient buildup and minimizing environmental impact.

Cause (or suspected cause) of non-compliance:

The exceedance of the nitrogen emission limit was caused by two key factors:

- Low retention time in the former anaerobic pond, which was heavily loaded with sludge, leading to excess nitrogen in the aerobic pond in the form of organic nitrogen and ammonium.
- Persistent aerator system malfunctions throughout the year, which hindered nitrification, inhibited denitrification, and thus reduced nitrogen removal from the system.

Referring to the 2023 AER, our objective was to achieve compliance by 2024, based on the assumption that the Secondary Anaerobic Pond (SAP) would be fully operational by the first quarter of the year. However, installation delays led to construction being completed in September 2024, with operations of the SAP only commencing at the end of October.

Thus, although the discharge to land and noncompliance may seem like a setback compared to 2023, TN levels in the evaporation pond improved significantly following the commissioning of the Secondary Anaerobic Pond (SAP), dropping from 80 mg/L to 50 mg/L, despite one aerator remaining offline.

Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:

A WWTP assessment was conducted two months after the SAP began operation to update and consolidate our *Path to Compliance Actions* (PTCA), ensuring its effectiveness.

A. WWTP Assessment

Following the commissioning of the Secondary Anaerobic Pond (SAP), an assessment of the WWTP was conducted.

At the time of the assessment, the former anaerobic pond did not discharge into the Aerobic Pond, ensuring an unbiased evaluation of SAP performance. This provided greater clarity on the current status of our WWTP and enabled us to identify areas for improvement without the interference of the former anaerobic pond's poor retention time, which had been a major contributor to inadequate treatment, as discussed in previous AERs.

It is important to note that the former anaerobic pond has not been taken offline but now serves a limited role in the system. It:

- Only receives washdown from the lairage, accounting for less than 5% of daily WWTP discharge.
- Acts as a backup receival area if the pump to the SAP fails.

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- Functions as an overflow receiver if the solid separator area becomes clogged or if the abattoir's flow rate increases unexpectedly.

Key Findings

1. Influent (Incoming Wastewater)

- On some occasions, TN concentrations in the influent were as high as 700 mg/L.

2. Secondary Anaerobic Pond (SAP)

- Operating efficiently, as expected, given that it was recently commissioned and should be free of sludge.

3. Former Anaerobic Pond

- Given the low volume entering this pond, retention time is considered sufficient to treat the wastewater effectively, despite the presence of sludge.
- Discharge to the aerobic pond is expected to be infrequent, as the inflow is largely offset by evaporation.
- Desludging is still planned.

4. Aerobic Pond

- The first step of nitrification ($NH_4^+ \rightarrow NO_2^-$) is occurring efficiently.
- However, the second step ($NO_2^- \rightarrow NO_3^-$) is slow or inhibited, indicating insufficient oxygen.
- This is an expected outcome since one aerator has been offline, limiting oxygen availability.

5. Evaporation Pond

- TN in the evaporation pond consists mainly of organic nitrogen (~60%) and ammonia/ammonium (~40%) with low amount of nitrite and nitrate.
- Ammonia/ammonium should have been removed in the aerobic pond during the first step of nitrification, but its presence suggests ongoing ammonification due to high organic nitrogen concentrations.
- Nitrite and nitrate levels are below the limit of reporting, indicating that denitrification is occurring.

B. Updated PTCA

Based on this assessment, our PTCA has been updated to address key issues. PTCA is organised from upgradient to downgradient structures in the list below, and organised by expected timeline in **Schedule 1**.

1. **In Abattoir: Water Use Efficiency**
    - Replacing cleaner hoses with a more efficient type, expected to reduce cleaning water usage by 40% from 80kL per day to 50 kL.
2. **Wastewater leaving abattoir: Influent Treatment**
    - Engage Fabiana Tessele from Tessele Consultants to explore strategies for minimizing organic nitrogen entering the system.
    - A Works Approval application will be submitted to DWER for any measures that require regulatory approval.
3. **Former Anaerobic Pond: Desludging**

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- As per W6452, desludging will improve retention time for lairage washdown, enhancing treatment efficiency.

4. **Secondary Anaerobic Pond: TLOP**
   - Management as per W6452
5. **Aerobic Pond: Aeration System Repairs**
   - Fix all electrical issues affecting aeration thus ensuring proper aeration levels, and therefore improving the conversion of nitrite (NO_2^-) to nitrate (NO_3^-) for full nitrification.
6. **Evaporation Pond: Preventing Ammonification**
   - Engage Fabiana Tessele from Tessele Consultants to explore strategies for minimizing organic nitrogen currently existing in the system.
   - A Works Approval application will be submitted to DWER for any measures that require regulatory approval.
7. **Discharge to Land: Increase of Irrigation Area**
   - Consideration for submitting a Works Approval for the expansion of irrigation by an additional 10 hectares, as this would expedite compliance while long-term improvement measures (listed above) are being implemented.

Schedule 1: PTCA Estimated Timeline

Structure	Actions	Expected Outcome	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25
Abattoir	Replacing cleaner's hoses for water use efficiency	40% savings: 80 kL → 50 kL thus less irrigation												
Influent	Strategies for minimizing organic nitrogen entering the WWTP	TN Reduction overall		Tessele	Tessele	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA
Former Anaerobic Pond	Desludging	Increase of retention time for lairage wastewater											COR	
Aerobic Pond	System Repair	Complete nitrification	Issue found											
Secondary Anaerobic Pond	Management as per W6452	Strong performance of SAP	TLOP cont.	TLOP cont.	TLOP cont.	End of TLOP	TLOP							
Evaporation Pond	Strategies for minimizing organic nitrogen existing in WWTP	Ammonification prevention -> TN Reduction		Tessele	Tessele	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA
Discharge to land	Works approval for an additional 10ha of irrigation	Significant reduction of input rate					TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA

Commissioning | Estimated Completion | Tessele liaison | Lining of dewatering area | Desludging | Repair | Reporting | Consideration

Was this non-compliance previously reported to DWER?	
☒ Yes, and	
☐ Reported to DWER verbally	Date: / /
☒ Reported to DWER in writing	Date: 26 / 02 / 2024 (previous AACR)

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[1]. I / We consent to the Annual Audit Compliance Report being published on the Department of Water and Environmental Regulation's (DWER) website.			
Signature[2]:	[redacted]	Signature:	
Name: (printed)		Name: (printed)	
Position:		Position:	
Date:	27/02/2024	Date:	
Seal (if signing under seal):			

[1] 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.

[2] 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.