



# **Walgett Shire Council Walgett Sewage Treatment System**

**DECCW  
Licence 13056  
Outflow**

**Test Results  
May 2022  
Bate Street  
Walgett NSW 2832**



**82 Plain Street  
TAMWORTH NSW 2340  
Phone: 02 6762 1733  
Fax: 02 6765 9109  
Email: [admin@eastwestonline.com.au](mailto:admin@eastwestonline.com.au)  
Website: [www.eastwestonline.com.au](http://www.eastwestonline.com.au)  
ABN 82 125 442 382**

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*This report does not provide a complete assessment of the environmental integrity of the site and is limited to the scope defined herein. Should any reader require that other matters be considered apart from those considered within this report, they should then make their own investigations and form their own conclusions.*

*This report has been prepared by:*

**Stephanie Cameron**

Independent consultant for agriculture & the environment  
(B.App.Sc)

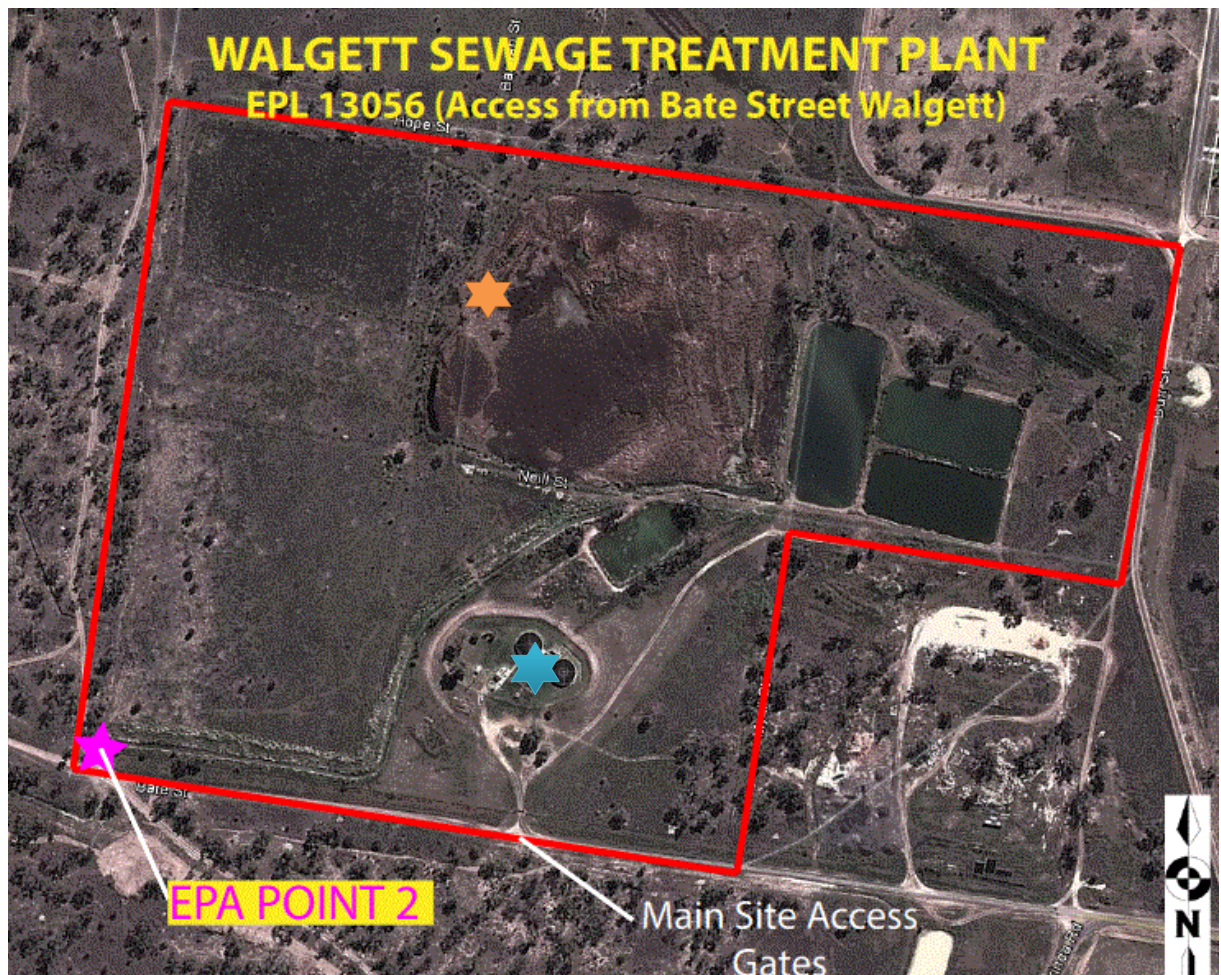
*Ref.: EW220967*

*Enc.: Envirolab COA 295256*



**Figure 1: Map of Environmental Monitoring Point located at Walgett Sewage Treatment Plant Bate St Walgett NSW 2832**

- ★ Sampling Point humus tank now labelled EPA point 2
- ★ Sampling Point final stage treatment at finishing pond
- ★ Sampling Point outflow EPA Point 2 – currently dry- effluent does not leave site





The lowest obtainable reading (LOR or limit of reporting) is reported for analytes which measure below the instrument’s level of detection. These are typically below guideline limits for contaminants. The quality control data was reviewed and not incorporated into the summary as there were no anomalies that needed to be highlighted.

**Table 2: Summary of testing results for Licence 13056; Point 2:**

Analyte	Units	Point 2				100 Percentile Limit	Guidelines
		EW180 497-1	EW180 944-1	EW181 321-3	EW181 642-3		
		17/02/18	16/04/18	31/07/18	24/10/18		
Oil & Grease	mg/L	<5	<5	<5	7	<10	<1000
pH	pH Units	9.3	8.9	8.5	8.9	6.5-8.5	6.0-8.5
Total Nitrogen	mg/L N	3.3	5.7	2.4	6.5	<20	<5-125
Total Phosphorus	mg/L P	2.5	5.0	5.6	4.8	<10	<0.05-12
BOD	mg/L	34	86	72	51	<20	Na
Total Suspended Solids	mg/L	180	230	130	180	<50	Na

No sample was collected 30/1/2019, 12/5/2019, 31/7/2019, 29/10/2019, 15/01/20, 10/4/20 16/7/20, 26/10/20, 19/01/21, 05/05/21, 28/10/21, 8/12/21, 28/2/22 and 9/5/22 as it was dry at Point 2. Samples are now collected from the finishing pond.

**100 Percentile Concentration Limit:** NSW Environment, Climate Change & Water (2011) *Walgett Shire Council Environmental Protection Licence 13056 – Walgett Sewage Treatment.*

**Guidelines:** ANZECC (2000) *Australian & New Zealand Guidelines for Fresh & Marine Waters for Primary Industries.* DECCW (2004) *Environmental Guidelines: Use of Effluent by Irrigation.*

**NS** ~ Sample could not be collected

**NT** ~ Testing not required

**Na** ~ Not applicable



**Table 3: Summary of testing results Finishing Pond Licence 13056:**

Analyte	Units	Finishing Pond											100 Percentile Limit	Guidelines <sup>5</sup>
		EW191622 -2	EW200085 -2	EW200520 -2	EW200878 -1	EW201302 -2	EW210180 -2	EW210737 -2	EW211484 -2	EW211643 -2	EW220608 -2	EW220967-4		
		Finishing Pond	Finishing Pond	Finishing Pond	Finishing Pond	Finishing Pond	Finishing Pond	Finishing Pond	Finishing Pond	Finishing Pond	Finishing Pond	Finishing Pond		
		29/11/19	15/01/20	10/04/20	16/07/20	26/10/20	19/01/21	05/05/21	28/10/21	08/12/21	28/02/22	09/05/22		
Oil & Grease	mg/L	7	9	<5	NT	6	12	10	<5	6	<5	<5	<10	<1000
pH	pH Units	7.8	9.2	7.9	7.6	8.0	9.7	9.8	9.2	9.1	8.3	8.0	6.5-8.5	6.0-8.5
Total Nitrogen	mg/L N	2.7	4.9	1.3	1.3	3.2	25	8.8	3.2	1.5	31	1.2	<20	<5-125
Total Phosphorus	mg/L P	4.2	9.0	2.4	3.1	3.7	5.7	3.5	3.9	4.5	0.2	3.2	<10	<0.05-12
BOD	mg/L	27	150	160	<5	9	170	49	26	9	110	<5	<20	Na
Total Suspended Solids	mg/L	8	250	38	15	64	190	100	110	150	120	12	<50	Na
Faecal Coliforms	Cfu/100mL	NT	400 A NBO	20	100 A NBO	4000 A NBO	<20	<20	200 A NBO	10 A NBO	30000 NBO	300A	Na	Na
Chlorophyll A	mg/L	8	1500	120	20	NT	1500	650	190	390	200	<5	Na	Na

**100 Percentile Concentration Limit:** NSW Environment, Climate Change & Water (2011) *Walgett Shire Council Environmental Protection Licence 13056 – Walgett Sewage Treatment.*

**Guidelines:** ANZECC (2000) *Australian & New Zealand Guidelines for Fresh & Marine Waters for Primary Industries.* DECCW (2004) *Environmental Guidelines: Use of Effluent by Irrigation.*

**NT** ~ testing not required

**A** ~ Approximate and NBO~ presence of competing background organisms in the sample may have reduced the count

**Na** ~ Not applicable

3/6/22

Director of Engineering/Technical Services  
Walgett Shire Council  
PO Box 31  
Walgett NSW 2832  
Email: [admin@walgett.nsw.gov.au](mailto:admin@walgett.nsw.gov.au)

To whom it may concern,

I offer the following comments after studying the results for monitoring the discharge of effluent at the finishing pond sampled 9 May 2022:

1. **Oil & Grease** (O&G) is a measure of a variety of substances including fuels, motor oil, lubricating oil, hydraulic oil, cooking oil, and animal-derived fats. At the Finishing Pond O&G is within the 100 percentile concentration limit specified in EPL 13056.
2. **pH** is a measure of the concentration of hydrogen ion, which determines how acidic or basic the water is. The pH of this water at Finishing Pond is still alkaline at 8.0 which is within the 100 percentile concentration range of 6.0-8.5 pH units.
3. **Total nitrogen** and **total phosphorus** are nutrients essential for plant growth and minor increases in these nutrient levels can alter natural ecosystems. Increasingly, waterways and groundwater systems are showing the effects of these nutrients. Therefore the discharge of effluent should be managed to avoid excessive nutrient levels where possible. The Finishing Pond has acceptable levels of total phosphorus and nitrogen, accordingly to the limit specified in EPL 13056.
4. **BOD** (Biological Oxygen Demand) is a measure of the oxygen used by microorganisms to decompose waste. Sewage treatment systems contain huge quantities of organic waste where bacteria present are working to decompose waste. The demand for oxygen will be high (due to all the bacteria) where the BOD level is high. As the waste is consumed by the bacteria, BOD levels will be low. BOD level at Finishing Pond is <5 mg/L indicating a significant decrease of organic matter and bacteria in the effluent, if compared with last results in February 2022.



5. **Total Suspended Solids (TSS)** consists of an inorganic fraction (silts, clays, etc.) and an organic fraction (algae, zooplankton, bacteria, and detritus). TSS is carried along suspended in the effluent. TSS can result in cloudiness of the sample and high sediment loads are very obvious because of the sample's muddy or turbid appearance. The TSS at Finishing Pond of 12mg/L is within the concentration limit specified in EPL 13056.
  
6. **Faecal Coliforms** of main concern for drinking water quality is the number of faecal coliforms present. This indicates that there is some contamination present and this can potentially be from animal droppings or from septic tanks. Faecal coliforms can come from other mammals and humans. The most common faecal coliform is *E coli*. For irrigation of sports fields the World health organisation (WHO) in 2001 recommended a maximum of 1000cfu/100mL. The finishing pond sample has 300 cfu/100mL faecal coliforms, showing a significant reduction compared to last results.

### Overall Impressions:

The sample of effluent collected from the Finishing Pond located at the Walgett Sewage Treatment System during May 2022 is below the 100 percentile concentration limits specified in EPL 13056 for all parameters.

Please let me know if you would like further comment.

Yours faithfully,

### Stephanie Cameron

Independent consultant for agriculture & the environment  
(B.App.Sc)