



Kyogle Landfill Facility Environmental Monitoring Data – 2022/23

64-78 Runnymede Road, Kyogle, NSW 2474
Environmental Protection Licence (EPL) number: 12124

Background

Under the *Protection of the Environment Operations Act 1997*, Kyogle Council must publish or make pollution monitoring data for the Kyogle Landfill Facility available to members of the public. This document summarises the pollution monitoring data for the Kyogle Landfill Facility for the 2022 – 2023 reporting period.

The Environment Protection Licence (EPL) for the Kyogle Landfill Facility outlines how and when pollution must be monitored and the pollution limits which should not be exceeded. A copy of the EPL for the Kyogle Landfill Facility is available from the NSW Environmental Protection Agency's Protection of the Environment Operations Public Register at <https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers/about-prpoeo>.

Environmental Monitoring Data

Leachate

MONITORING POINT 1: Western Leachate Dam (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	Quarterly	770	380	440	510	380	525	770	No limit
Ammonia	Milligrams per litre	Quarterly	67	19	4.8	4.7	4.7	23.9	67	No limit
Arsenic	Milligrams per litre	Quarterly	0.0032	<0.05	<0.05	<0.05	0.0032	0.04	<0.05	No limit
Calcium	Milligrams per litre	Quarterly	94	49	25	41	25	52	94	No limit
Chloride	Milligrams per litre	Quarterly	210	220	340	290	210	265	340	No limit
Dissolved organic carbon	Milligrams per litre	Quarterly	47	35	70	61	35	53	70	No limit
Electrical Conductivity	Microsiemens per centimetre	Quarterly	2,000	1,400	1,800	1,800	1,400	1,750	2,000	No limit
Iron	Milligrams per litre	Quarterly	2.4	1.8	3.5	6.0	1.8	3.4	6.0	No limit
Magnesium	Milligrams per litre	Quarterly	35	32	39	36	32	36	39	No limit
Manganese	Milligrams per litre	Quarterly	1.1	0.28	0.27	0.46	0.27	0.53	1.1	No limit
Nitrate	Milligrams per litre	Quarterly	<0.20	0.61	<0.02	<0.02	<0.02	0.2	0.61	No limit
Nitrite	Milligrams per litre	Quarterly	0.02	0.61	<0.01	0.034	<0.01	0.67	0.61	No limit
Nitrogen - Total	Milligrams per litre	Quarterly	72	24	21	17	17	34	72	No limit
Nitrogen - Oxidised	Milligrams per litre	Quarterly	0.05	1.2	<0.02	0.044	<0.02	0.64	1.2	No limit

MONITORING POINT 1: Western Leachate Dam (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
pH	pH	Quarterly	8.0	8.0	8.3	7.7	7.7	8.0	8.3	No limit
Potassium	Milligrams per litre	Quarterly	57	46	71	62	46	59	71	No limit
Sodium	Milligrams per litre	Quarterly	200	190	310	260	190	240	310	No limit
Sulphate	Milligrams per litre	Quarterly	18	17	11	5.8	5.8	13.0	18	No limit
Total petroleum hydrocarbons	Micrograms per litre	Quarterly	520*	320**	600***	580****	320	505	600	No limit

*Is result for TRHC15-C28. Other results include: TRHC10-C14 = 220 µg/L and TRHC29-C36 = <100 µg/L

**Is result for TRHC15-C28. Other results include: TRHC10-C14 = 130 µg/L and TRHC29-C36 = <100 µg/L

***Is result for TRHC15-C28. Other results include: TRHC10-C14 = 99 µg/L and TRHC29-C36 = 230 µg/L

**** Is result for TRHC15-C28. Other results include: TRHC10-C14 = 410 µg/L and TRHC29-C36 = 270 µg/L

MONITORING POINT 2: Eastern Leachate Dam (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	Quarterly	450	610	370	380	370	452	610	No limit
Ammonia	Milligrams per litre	Quarterly	34	78	12	24	12	37	78	No limit
Arsenic	Milligrams per litre	Quarterly	0.0016	<0.05	<0.05	<0.05	0.0016	0.04	<0.05	No limit
Calcium	Milligrams per litre	Quarterly	64	80	49	38	38	58	80	No limit
Chloride	Milligrams per litre	Quarterly	200	300	290	280	200	268	300	No limit
Dissolved organic carbon	Milligrams per litre	Quarterly	37	84	48	35	35	51	84	No limit
Electrical conductivity	Microsiemens per centimetre	Quarterly	1,500	2,300	1,600	1,500	1,500	2,100	2,300	No limit
Iron	Milligrams per litre	Quarterly	2.2	11	7.6	5.8	2.2	6.7	11	No limit
Magnesium	Milligrams per litre	Quarterly	29	37	33	27	27	25	37	No limit
Manganese	Milligrams per litre	Quarterly	0.4	1.6	1.1	1.0	0.4	1.0	1.6	No limit
Nitrate	Milligrams per litre	Quarterly	2.0	<0.02	0.041	<0.02	<0.02	0.52	2.0	No limit
Nitrite	Milligrams per litre	Quarterly	0	0.013	0.042	0.021	0	0.019	0.042	No limit
Nitrogen - Total	Milligrams per litre	Quarterly	40	89	26	29	26	46	89	No limit
Nitrogen - Oxidised	Milligrams per litre	Quarterly	2	<0.02	0.085	0.039	<0.02	0.54	2	No limit
pH	pH	Quarterly	7.6	7.4	7.5	7.6	7.4	7.5	7.6	No limit
Potassium	Milligrams per litre	Quarterly	40	82	51	36	36	52	82	No limit
Sodium	Milligrams per litre	Quarterly	170	260	220	190	170	210	260	No limit
Sulphate	Milligrams per litre	Quarterly	13	3.0	1.1	1.3	1.1	4.6	13	No limit
Total petroleum hydrocarbons	Micrograms per litre	Quarterly	200*	1,300**	1,900***	270****	200	968	1,900	No limit

*Is result for TRHC15-C28. Other results include: TRHC10-C14 = 100 µg/L and TRHC29-C36 = <100 µg/L

**Is result for TRHC29-C36. Other results include: TRHC10-C14 = 340 µg/L and TRHC15-C28 = 600 µg/L

***Is result for TRHC29-C36. Other results include: TRHC10-C14 = 280 µg/L and TRHC15-C28 = 1,200 µg/L

**** Is result for TRHC15-C28. Other results include: TRHC10-C14 = 210 µg/L and TRHC29-C36 = <100 µg/L

Ground water quality

Ground water monitoring is required to be conducted following the first 24 hour rainfall event exceeding 25 millimetres in each quarterly period. Monitoring results will be published below if monitoring was required during the quarter. If no monitoring results are published below it means that a rainfall event exceeding 25mm in 24 hours did not occur during the quarter.

	July 2022	October 2022	January 2023	April 2023
No. of events during quarter	0	0	0	0
Date of first event	N/A	N/A	N/A	N/A

MONITORING POINT 4: GW1A (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
TRHC10-C14	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC15-C28	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC29-C36	Micrograms per litre		-	-	-	-	-	-	-	No limit

MONITORING POINT 5: GW2A (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
TRHC10-C14	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC15-C28	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC29-C36	Micrograms per litre		-	-	-	-	-	-	-	No limit

MONITORING POINT 8: GW3A (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
TRHC10-C14	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC15-C28	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC29-C36	Micrograms per litre		-	-	-	-	-	-	-	No limit

MONITORING POINT 10: BH3 (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
TRHC10-C14	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC15-C28	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC29-C36	Micrograms per litre		-	-	-	-	-	-	-	No limit

MONITORING POINT 12: BH5 (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
TRHC10-C14	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC15-C28	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC29-C36	Micrograms per litre		-	-	-	-	-	-	-	No limit

MONITORING POINT 13: BH6 (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
TRHC10-C14	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC15-C28	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC29-C36	Micrograms per litre		-	-	-	-	-	-	-	No limit

MONITORING POINT 14: BH7 (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
TRHC10-C14	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC15-C28	Micrograms per litre		-	-	-	-	-	-	-	No limit
TRHC29-C36	Micrograms per litre		-	-	-	-	-	-	-	No limit

Surface water quality

Surface water monitoring is required to be conducted following the first 24hour rainfall event exceeding 25 millimetres in each quarterly period. Monitoring results will be published below if monitoring was required during the quarter. If no monitoring results are published below it means that a rainfall event exceeding 25mm in 24 hours did not occur during the quarter.

	July 2022	October 2022	January 2023	April 2022
No. of events during quarter	0	0	0	0
Date of first event	N/A	N/A	N/A	N/A

MONITORING POINT 15: SW001 (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Arsenic	Milligrams per litre		-	-	-	-	-	-	-	No limit
Calcium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Chloride	Milligrams per litre		-	-	-	-	-	-	-	No limit
Dissolved organic carbon	Milligrams per litre		-	-	-	-	-	-	-	No limit
Electrical conductivity	Microsiemens per centimetre		-	-	-	-	-	-	-	No limit
Iron	Milligrams per litre		-	-	-	-	-	-	-	No limit
Magnesium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Manganese	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrate	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrite	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
Potassium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Sodium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Suspended solids	Milligrams per litre		-	-	-	-	-	-	-	No limit
Total petroleum hydrocarbons	Micrograms per litre		-	-	-	-	-	-	-	No limit

MONITORING POINT 16: SW002 (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Arsenic	Milligrams per litre		-	-	-	-	-	-	-	No limit
Calcium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Chloride	Milligrams per litre		-	-	-	-	-	-	-	No limit
Dissolved organic carbon	Milligrams per litre		-	-	-	-	-	-	-	No limit
Electrical conductivity	Microsiemens per centimetre		-	-	-	-	-	-	-	No limit

MONITORING POINT 16: SW002 (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Iron	Milligrams per litre		-	-	-	-	-	-	-	No limit
Magnesium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Manganese	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrate	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrite	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
Potassium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Sodium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Suspended solids	Milligrams per litre		-	-	-	-	-	-	-	No limit
Total petroleum hydrocarbons	Micrograms per litre		-	-	-	-	-	-	-	No limit

MONITORING POINT 17: SW003 (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Alkalinity	Milligrams per litre	When threshold event occurs (see above)	-	-	-	-	-	-	-	No limit
Ammonia	Milligrams per litre		-	-	-	-	-	-	-	No limit
Arsenic	Milligrams per litre		-	-	-	-	-	-	-	No limit
Calcium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Chloride	Milligrams per litre		-	-	-	-	-	-	-	No limit
Dissolved organic carbon	Milligrams per litre		-	-	-	-	-	-	-	No limit
Electrical conductivity	Microsiemens per centimetre		-	-	-	-	-	-	-	No limit
Iron	Milligrams per litre		-	-	-	-	-	-	-	No limit
Magnesium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Manganese	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrate	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrite	Milligrams per litre		-	-	-	-	-	-	-	No limit
Nitrogen	Milligrams per litre		-	-	-	-	-	-	-	No limit
pH	pH		-	-	-	-	-	-	-	No limit
Potassium	Milligrams per litre		-	-	-	-	-	-	-	No limit

MONITORING POINT 17: SW003 (see map for location)										
Pollutant	Unit of measure	Required monitoring frequency	Quarterly results				Summary results			Pollution limit
			July 2022	October 2022	January 2023	April 2023	Min value	Mean value	Max value	
Sodium	Milligrams per litre		-	-	-	-	-	-	-	No limit
Suspended solids	Milligrams per litre		-	-	-	-	-	-	-	No limit
Total petroleum hydrocarbons	Micrograms per litre		-	-	-	-	-	-	-	No limit

Stormwater discharge

Stormwater monitoring is required to be conducted following the first discharge event of each quarter arising from a rainfall event of less than 60 millimetres in total falling over a consecutive 5 day period. Monitoring results will be published below if monitoring was required during the quarter. If no monitoring results are published below it means that a discharge event did not occur after the above described rainfall event during the quarter.

	July 2022	October 2022	January 2023	April 2023
No. of events during quarter	0	0	0	0
Date of first event	N/A	N/A	N/A	N/A

Sampling data

Leachate

Key milestones	Quarterly sample			
	July 2022	October 2022	January 2023	April 2023
Date testing conducted	22 July 2022	26 October 2022	27 January 2023	20 April 2023
Date data obtained	08 August 2022	9 November 2022	3 February 2023	5 May 2023
Date data published	11 August 2022	14 November 2022	8 February 2023	11 May 2023

Ground water

Key milestones	Quarterly sample			
	July 2022	October 2022	January 2023	April 2023
Date testing conducted	N/A	N/A	N/A	N/A
Date data obtained	N/A	N/A	N/A	N/A
Date data published	N/A	N/A	N/A	N/A

Surface water

Key milestones	Quarterly sample			
	July 2022	October 2022	January 2023	April 2023
Date testing conducted	N/A	N/A	N/A	N/A
Date data obtained	N/A	N/A	N/A	N/A
Date data published	N/A	N/A	N/A	N/A

Stormwater

Key milestones	Quarterly sample			
	July 2022	October 2022	January 2023	April 2023
Date testing conducted	N/A	N/A	N/A	N/A
Date data obtained	N/A	N/A	N/A	N/A
Date data published	N/A	N/A	N/A	N/A

Kyogle Landfill Facility Monitoring Points (from Appendix 6 of Kyogle Landfill Environmental Management Plan)

