

KOOTINGAL LANDFILL - YEARLY SUMMARY FOR 2019/20

Licence Number - 6013

Kootingal Solid Waste Landfill - New England Highway, Kootingal NSW, 2352

Licencee - Tamworth Regional Council

Public Register <https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers>

LICENCE PERIOD: 17th Oct 2019 - 16th Oct 2020

PQL = Practical Quantitation Limit

LOR = Limit of Reporting

N/A = not applicable

Point 1 - Surface Area

Concentration Limits: Point 1: TSS (Total Suspended Solids) - 50mg/L, 100 percentile concentration limit

Pollutant	Unit of measure	Monitoring Frequency	Date Sampled
			N/A
			Date Data Obtained
			N/A
			Value
Alkalinity (as calcium carbonate)	mg/L	Special Frequency 1	N/A
Calcium	mg/L	Special Frequency 1	N/A
Chloride	mg/L	Special Frequency 1	N/A
Chromium (Hexavalent)	mg/L	Special Frequency 1	N/A
Conductivity (In situ)	µS/cm	Special Frequency 1	N/A
Dissolved Oxygen (In situ)	mg/L	Special Frequency 1	N/A
Fluoride	mg/L	Special Frequency 1	N/A
Iron	mg/L	Special Frequency 1	N/A
Magnesium	mg/L	Special Frequency 1	N/A
Manganese	mg/L	Special Frequency 1	N/A
Nitrate	mg/L	Special Frequency 1	N/A
Nitrite	mg/L	Special Frequency 1	N/A
Nitrogen (ammonia)	mg/L	Special Frequency 1	N/A
pH (In situ)	pH Units	Special Frequency 1	N/A
Potassium	mg/L	Special Frequency 1	N/A
Sodium	mg/L	Special Frequency 1	N/A
Sulfate	mg/L	Special Frequency 1	N/A
Temperature (In situ)	oC	Special Frequency 1	N/A
Total Kjeldahl Nitrogen	mg/L	Special Frequency 1	N/A
Total Organic Carbon	mg/L	Special Frequency 1	N/A
Total Phenolics	µg/L	Special Frequency 1	N/A
Total Suspended Solids	mg/L	Special Frequency 1	N/A
Volumetric Flow Rate	KL/Day	Special Frequency 1	N/A
Zinc	mg/L	Special Frequency 1	N/A
Organochlorine Pesticides	µg/L	Special Frequency 1	N/A
Organophosphate Pesticides	µg/L	Special Frequency 1	N/A

NOTE: Special Frequency 1 - once in each 6-monthly period at a time of stormwater discharge

Point 2 - Leachate Pond

Pollutant	Unit of measure	Monitoring Frequency	Date Sampled	Date Sampled	Date Sampled	Date Sampled	Date Sampled
			11/12/2019	29/01/2020	11/03/2020	30/06/2020	10/09/2020
			Date Data Obtained	Date Data Obtained	Date Data Obtained	Date Data Obtained	Date Data Obtained
			13/12/2019	10/02/2020	24/03/2020	9/07/2020	1/10/2020
			Value	Value	Value	Value	Value
Alkalinity (as calcium carbonate)	mg/L	Quarterly	DRY	165	274	166	160
Calcium	mg/L	Quarterly	DRY	50	59	44	60
Chloride	mg/L	Quarterly	DRY	39	73	51	73
Chromium (Hexavalent)	mg/L	Quarterly	DRY	<0.10	<0.05	<0.10	<0.01
Conductivity (In situ)	µS/cm	Quarterly	DRY	1250	770	530	600
Dissolved Oxygen (In situ)	mg/L	Quarterly	DRY	4.4	14.7	14.2	9.6
Fluoride	mg/L	Quarterly	DRY	0.13	0.12	0.15	0.51
Iron	mg/L	Quarterly	DRY	1.54	1.7	3.32	6.84
Magnesium	mg/L	Quarterly	DRY	12	11	10	18
Manganese	mg/L	Quarterly	DRY	0.452	0.6	0.815	0.470
Nitrate	mg/L	Quarterly	DRY	<0.1	<0.1	<0.1	0.4
Nitrite	mg/L	Quarterly	DRY	<0.1	<0.1	<0.1	<0.1
Nitrogen (ammonia)	mg/L	Quarterly	DRY	<0.1	<0.1	<0.1	<0.1
pH (in situ)	pH Units	Quarterly	DRY	7.7	8.8	8.7	7.8
Potassium	mg/L	Quarterly	DRY	55	125	68	44
Sodium	mg/L	Quarterly	DRY	13	16	15	30
Sulfate	mg/L	Quarterly	DRY	<10	<10	16	33
Temperature (In situ)	oC	Quarterly	DRY	20.2	27.0	10.5	15.9
Total Kjeldahl Nitrogen	mg/L	Quarterly	DRY	3.7	22.6	7.8	10.5
Total Organic Carbon	mg/L	Quarterly	DRY	68	80	69	66
Total Phenolics	µg/L	Quarterly	DRY	<50	<50	<50	<50
Total Suspended Solids	mg/L	Quarterly	DRY	7	166	68	198
Zinc	mg/L	Quarterly	DRY	0.016	<0.1	0.015	0.035
Organochlorine Pesticides	µg/L	Quarterly	DRY	<LOR	<LOR	<LOR	<LOR
Organophosphate Pesticides	µg/L	Quarterly	DRY	<LOR	<LOR	<LOR	<LOR

Point 3 - Leachate Overflow Point

Pollutant	Unit of measure	Monitoring Frequency	Date Sampled
			10/02/2020
			Date Data Obtained
			25/02/2020
			Value
Alkalinity (as calcium carbonate)	mg/L	Special Frequency 2	139
Calcium	mg/L	Special Frequency 2	33
Chloride	mg/L	Special Frequency 2	48
Chromium (Hexavalent)	mg/L	Special Frequency 2	<0.10
Conductivity (In Situ)	µS/cm	Special Frequency 2	540
Dissolved Oxygen (In Situ)	mg/L	Special Frequency 2	7.8
Fluoride	mg/L	Special Frequency 2	0.12
Iron	mg/L	Special Frequency 2	1.3
Magnesium	mg/L	Special Frequency 2	9
Manganese	mg/L	Special Frequency 2	0.2
Nitrate	mg/L	Special Frequency 2	2.8
Nitrite	mg/L	Special Frequency 2	0.3
Nitrogen (ammonia)	mg/L	Special Frequency 2	8.7
pH (In Situ)	pH Units	Special Frequency 2	8.3
Potassium	mg/L	Special Frequency 2	74
Sodium	mg/L	Special Frequency 2	15
Sulfate	mg/L	Special Frequency 2	22
Temperature (In Situ)	oC	Special Frequency 2	33.3
Total Kjeldahl Nitrogen	mg/L	Special Frequency 2	5.6
Total Organic Carbon	mg/L	Special Frequency 2	53
Total Phenolics	µg/L	Special Frequency 2	<50
Total Suspended Solids	mg/L	Special Frequency 2	30
Volumetric Flow Rate (estimate)	KL/Day	Special Frequency 2	0.1
Zinc	mg/L	Special Frequency 2	<0.1
Organochlorine Pesticides	µg/L	Special Frequency 2	<LOR
Organophosphate Pesticides	µg/L	Special Frequency 2	<LOR

NOTE: Special Frequency 2 - once in the first 24 hours after detection of the discharge and then weekly whilst the discharge continues

Point 4 - Groundwater Monitoring Bore - BH1

Pollutant	Unit of measure	Monitoring Frequency	Date Sampled	Date Sampled	Date Sampled	Date Sampled
			11/12/2019	11/03/2020	30/06/2020	10/09/2020
			Date Data Obtained	Date Data Obtained	Date Data Obtained	Date Data Obtained
			20/12/2019	25/03/2020	9/07/2020	21/09/2020
			Value	Value	Value	Value
Alkalinity (as calcium carbonate)	mg/L	Quarterly	374	373	399	393
Biological Oxygen Demand	mg/L	Quarterly	<2	<2	<2	<2
Calcium	mg/L	Quarterly	97	143	88	86
Chloride	mg/L	Quarterly	81	91	84	71
Fluoride	mg/L	Quarterly	1.12	1.06	1.28	1.40
Iron	mg/L	Quarterly	0.2	0.2	<0.05	0.15
Magnesium	mg/L	Quarterly	80	71	67	68
Manganese	mg/L	Quarterly	<0.1	0.1	0.034	0.112
Nitrate	mg/L	Quarterly	45.3	56.8	21.3	21.3
Nitrogen (ammonia)	mg/L	Quarterly	<0.1	<0.1	<0.1	<0.1
pH (In Situ)	pH Units	Quarterly	6.5	6.6	6.8	6.7
Potassium	mg/L	Quarterly	14	15	12	12
Sodium	mg/L	Quarterly	76	65	80	82
Sulfate	mg/L	Quarterly	67	82	121	102
Total Dissolved Solids	mg/L	Quarterly	938	868	808	792
Total Organic Carbon	mg/L	Quarterly	11	10	8	5
Total Phenolics	µg/L	Quarterly	<50	<50	<50	<50
Organochlorine Pesticides	µg/L	Yearly	<LOR	N/A	N/A	N/A
Organophosphate Pesticides	µg/L	Yearly	<LOR	N/A	N/A	N/A

Point 5 - Groundwater Bore BH2

Pollutant	Unit of measure	Monitoring Frequency	Date Sampled	Date Sampled	Date Sampled	Date Sampled
			11/12/2019	11/03/2020	30/06/2020	10/09/2020
			Date Data Obtained	Date Data Obtained	Date Data Obtained	Date Data Obtained
			20/12/2019	25/03/2020	9/07/2020	21/09/2020
			Value	Value	Value	Value
Alkalinity (as calcium carbonate)	mg/L	Quarterly	716	744	713	718
Biological Oxygen Demand	mg/L	Quarterly	<2	<2	<2	<2
Calcium	mg/L	Quarterly	200	268	212	220
Chloride	mg/L	Quarterly	270	294	321	335
Fluoride	mg/L	Quarterly	1.08	1.00	1.00	1.02
Iron	mg/L	Quarterly	7.2	5.3	3.80	1.51
Magnesium	mg/L	Quarterly	134	107	133	135
Manganese	mg/L	Quarterly	4.8	3.8	4.19	3.98
Nitrate	mg/L	Quarterly	8.7	11.5	9.1	8.1
Nitrogen (ammonia)	mg/L	Quarterly	<0.1	1.4	<0.1	<0.1
pH (In Situ)	pH Units	Quarterly	6.8	6.8	6.9	6.8
Potassium	mg/L	Quarterly	13	12	12	12
Sodium	mg/L	Quarterly	231	213	238	243
Sulfate	mg/L	Quarterly	384	361	401	398
Total Dissolved Solids	mg/L	Quarterly	1740	1628	1800	1892
Total Organic Carbon	mg/L	Quarterly	9	8	9	35
Total Phenolics	µg/L	Quarterly	<50	<50	<50	<50
Organochlorine Pesticides	µg/L	Yearly	<LOR	N/A	N/A	N/A
Organophosphate Pesticides	µg/L	Yearly	<LOR	N/A	N/A	N/A

Point 6 - Groundwater Bore BH3

Pollutant	Unit of measure	Monitoring Frequency	Date Sampled	Date Sampled	Date Sampled	Date Sampled
			11/12/2019	11/03/2020	30/06/2020	10/09/2020
			Date Data Obtained	Date Data Obtained	Date Data Obtained	Date Data Obtained
			20/12/2019	25/03/2020	9/07/2020	21/09/2020
			Value	Value	Value	Value
Alkalinity (as calcium carbonate)	mg/L	Quarterly	692	712	668	669
Biological Oxygen Demand	mg/L	Quarterly	<2	<2	<2	3
Calcium	mg/L	Quarterly	170	221	156	157
Chloride	mg/L	Quarterly	220	249	207	226
Fluoride	mg/L	Quarterly	1.12	1.07	1.10	1.11
Iron	mg/L	Quarterly	1.0	<0.1	0.59	0.16
Magnesium	mg/L	Quarterly	122	98	105	105
Manganese	mg/L	Quarterly	0.7	0.5	0.500	0.454
Nitrate	mg/L	Quarterly	0.1	0.1	<0.1	0.2
Nitrogen (ammonia)	mg/L	Quarterly	<0.1	<0.1	<0.1	<0.1
pH (In Situ)	pH Units	Quarterly	6.7	6.7	6.9	6.7
Potassium	mg/L	Quarterly	12	13	11	11
Sodium	mg/L	Quarterly	147	134	135	140
Sulfate	mg/L	Quarterly	119	168	167	182
Total Dissolved Solids	mg/L	Quarterly	1344	1356	1276	1312
Total Organic Carbon	mg/L	Quarterly	16	13	12	37
Total Phenolics	µg/L	Quarterly	<50	<50	<50	<50
Organochlorine Pesticides	µg/L	Yearly	<LOR	N/A	N/A	N/A
Organophosphate Pesticides	µg/L	Yearly	<LOR	N/A	N/A	N/A

Point 7 - Groundwater Bore BH4

Pollutant	Unit of measure	Monitoring Frequency	Date Sampled	Date Sampled	Date Sampled	Date Sampled
			11/12/2019	11/03/2020	30/06/2020	10/09/2020
			Date Data Obtained	Date Data Obtained	Date Data Obtained	Date Data Obtained
			20/12/2019	25/03/2020	9/07/2020	21/09/2020
			Value	Value	Value	Value
Alkalinity (as calcium carbonate)	mg/L	Quarterly	DRY	DRY	DRY	DRY
Biological Oxygen Demand	mg/L	Quarterly	DRY	DRY	DRY	DRY
Calcium	mg/L	Quarterly	DRY	DRY	DRY	DRY
Chloride	mg/L	Quarterly	DRY	DRY	DRY	DRY
Fluoride	mg/L	Quarterly	DRY	DRY	DRY	DRY
Iron	mg/L	Quarterly	DRY	DRY	DRY	DRY
Magnesium	mg/L	Quarterly	DRY	DRY	DRY	DRY
Manganese	mg/L	Quarterly	DRY	DRY	DRY	DRY
Nitrate	mg/L	Quarterly	DRY	DRY	DRY	DRY
Nitrogen (ammonia)	mg/L	Quarterly	DRY	DRY	DRY	DRY
pH (In Situ)	pH Units	Quarterly	DRY	DRY	DRY	DRY
Potassium	mg/L	Quarterly	DRY	DRY	DRY	DRY
Sodium	mg/L	Quarterly	DRY	DRY	DRY	DRY
Sulfate	mg/L	Quarterly	DRY	DRY	DRY	DRY
Total Dissolved Solids	mg/L	Quarterly	DRY	DRY	DRY	DRY
Total Organic Carbon	mg/L	Quarterly	DRY	DRY	DRY	DRY
Total Phenolics	µg/L	Quarterly	DRY	DRY	DRY	DRY
Organochlorine Pesticides	µg/L	Yearly	DRY	DRY	DRY	DRY
Organophosphate Pesticides	µg/L	Yearly	DRY	DRY	DRY	DRY