

Kurnell Landfill Quarterly Ground Water Analytical Results - January-February 2023

Monitoring Location:			BH3A	BH4A	BH5A	BH6A	BH7A	BH8A	BH9C	BH10B	BH11A	BH12A	BH13A
Sample Id:			BH3A	BH4A	BH5A	BH6A	BH7A	BH8A	BH9C	BH10B	BH11A	BH12A	BH13A
Laboratory Report Number:			315113	315113	315113	315113	315113	315113	315782	315113	315113	315113	315113
Laboratory:			Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab
Date Sampled:			24 Jan 23	24 Jan 23	24 Jan 23	23 Jan 23	23 Jan 23	23 Jan 23	06 Feb 23	23 Jan 23	23 Jan 23	24 Jan 23	24 Jan 23
Parameters	PQL	Units	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter
			2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023
Endrin	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
4,4-DDD	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
4,4-DDT	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin aldehyde	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan sulphate	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos-ethyl	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos-methyl	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	1	µg/L	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b)&(k)fluoranthene	2	µg/L	<2	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2
Indeno(1,2,3-cd)pyrene	1	µg/L	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	5	µg/L	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Phenolics	0.05	mg/L	<0.05	<1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

NOTES:

nt = Not Tested

nt_1 = No field data or samples obtainable as groundwater well was observed to be entirely inundated at the time of monitoring

Kurnell Landfill Quarterly Ground Water Analytical Results - January-February 2023

Sample Location:			BH14	BH15	BH16	BH17	BH18	BH19B	BH20	BH22	BH23	BH24	BH25	LB2
Sample ID:			BH14A	BH15	BH16	BH17	BH18	BH19B	BH20	BH22	BH23	BH24	BH25	LB02
Laboratory Report Number:			315113	315113	315113	315113	315113	315113	315113	315113	315113	NA	315113	315113
Laboratory:			Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	NA	Envirolab	Envirolab
Date Sampled:			23 Jan 23	23 Jan 23	23 Jan 23	24 Jan 23	23 Jan 23	23 Jan 23	23 Jan 23	23 Jan 23	23 Jan 23	NA	23 Jan 23	23 Jan 23
			4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023	4th Quarter 2022/2023
Parameters	PQL	Units												
Standing Water Level	0.01	mBTOC	3.63	4.79	0.95	5.28	26.64	4.37	0.20	3.33	3.05	nt_i	7.12	13.41
pH (field)	0.1	pH units	7.17	8.2	7.42	7.59	6.81	7.77	7.59	7.75	7.7	nt_i	7.87	7.58
Electrical Conductivity (field)	1	µS/cm	2,546	372	330	524	471	331	514	552	203.7	nt_i	452	5,421
pH	0.1	pH units	6.9	7.5	7.1	7.3	6.6	7	7	7.3	7.1	nt_i	7.5	7.3
Total Dissolved Solids	5	mg/L	2,000	640	310	1,400	770	370	1,100	950	300	nt_i	1,000	3,200
Total Organic Carbon	1	mg/L	41	9	13	21	3	76	24	36	18	nt_i	14	210
Carbonate Alkalinity (CO3-2)	1	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	nt_i	<5	<5
Chloride	20	mg/L	210	48	47	140	74	29	170	90	30	nt_i	240	610
Sulphate	5	mg/L	1100	220	2	290	36	96	420	260	8	nt_i	53	200
Ammonia as N	0.1	mg/L	0.093	0.58	0.12	12	0.74	0.022	0.016	9.4	0.15	nt_i	0.66	190
Sodium (Na)	0.03	mg/L	210	35	29	120	37	23	140	110	19	nt_i	150	470
Potassium (I) Ion	0.03	mg/L	27	7.4	3	26	6.2	8.1	15	23	4	nt_i	5.2	180
Calcium (II) Ion	0.03	mg/L	550	140	62	300	210	140	160	210	83	nt_i	150	150
Magnesium (II) Ion	0.03	mg/L	81	19	12	36	28	11	33	26	12	nt_i	31	110
Hexavalent Chromium	0.005	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	nt_i	<0.005	<0.005
Fluoride	0.1	mg/L	0.2	0.4	<0.1	0.1	0.1	0.2	0.3	0.2	0.2	nt_i	0.2	0.2
Phosphorus	0.05	mg/L	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt_i	nt	nt
Aluminium	10	µg/L	10	<10	<10	<10	110	<10	10	<10	<10	nt_i	<10	10
Arsenic	1	µg/L	<1	2	89	4	4	5	1	13	12	nt_i	<1	3
Barium	1	µg/L	87	11	17	140	36	16	88	45	21	nt_i	15	630
Cadmium	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt_i	<0.1	<0.1
Chromium	1	µg/L	<1	<1	<1	<1	<1	<1	<1	2	<1	nt_i	<1	15
Cobalt	1	µg/L	1	<1	<1	1	<1	<1	<1	<1	<1	nt_i	<1	4
Copper	1	µg/L	6	<1	<1	<1	10	<1	3	<1	<1	nt_i	<1	2
Lead	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Manganese	5	µg/L	120	30	550	86	13	<5	48	22	95	nt_i	25	27
Mercury	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	nt_i	<0.05	<0.05
Zinc	1	µg/L	50	2	1	2	37	4	970	<1	4	nt_i	1	81
Nitrate as N	0.005	mg/L	0.18	0.36	<0.005	0.63	2.4	1.4	0.18	0.51	0.15	nt_i	<0.005	<0.005
Nitrite as N	0.005	mg/L	0.01	<0.005	0.007	0.01	<0.005	0.084	<0.005	0.31	0.02	nt_i	<0.005	<0.005
Total Suspended Solids	5	mg/L	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt_i	nt	nt
Benzene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Toluene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Ethylbenzene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
m+p-xylene	2	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	nt_i	<2	<2
o-xylene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
TRH C6- C9	10	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	nt_i	<10	29
TRH C6-C10	10	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	nt_i	<10	46
TRH C10- C14	50	µg/L	<50	<50	<50	89	<50	<50	<50	80	<50	nt_i	<50	780
TRH C15-C28	100	µg/L	<100	<100	<100	240	<100	<100	<100	120	<100	nt_i	140	4200
TRH C29-C36	100	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	nt_i	<100	130
Hexachlorobenzene	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
alpha-BHC	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
gamma-BHC (Lindane)	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
b-BHC	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Heptachlor	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
d-BHC	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Aldrin	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Heptachlor epoxide	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Chlordane - cis	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Chlordane - trans	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Endosulfan alpha	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
4,4-DDE	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Dieldrin	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2

Kurnell Landfill Quarterly Ground Water Analytical Results - January-February 2023

Sample Location:			BH14	BH15	BH16	BH17	BH18	BH19B	BH20	BH22	BH23	BH24	BH25	LB2
Sample Id:			BH14A	BH15	BH16	BH17	BH18	BH19B	BH20	BH22	BH23	BH24	BH25	LB02
Laboratory Report Number:			315113	315113	315113	315113	315113	315113	315113	315113	315113	NA	315113	315113
Laboratory:			Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	Envirolab	NA	Envirolab	Envirolab
Date Sampled:			23 Jan 23	23 Jan 23	23 Jan 23	24 Jan 23	23 Jan 23	23 Jan 23	23 Jan 23	23 Jan 23	23 Jan 23	NA	23 Jan 23	23 Jan 23
Parameters	PQL	Units	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter	4th Quarter
			2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023	2022/2023
Endrin	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
4,4-DDD	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Endosulfan II	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
4,4-DDT	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Endrin aldehyde	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Endosulfan sulphate	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Methoxychlor	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Bromophos-ethyl	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Chlorpyrifos	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Chlorpyrifos-methyl	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Diazinon	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Dimethoate	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Ethion	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Fenitrothion	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Ronnel	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt_i	<0.2	<0.2
Naphthalene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	2
Acenaphthylene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Acenaphthene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Fluorene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Phenanthrene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Anthracene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Fluoranthene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Pyrene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Benzo(a)anthracene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Chrysene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Benzo(b)&(k)fluoranthene	2	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	nt_i	<2	<2
Indeno(1,2,3-cd)pyrene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Dibenz(a,h)anthracene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Benzo(g,h,i)perylene	1	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<1
Benzo(a)pyrene	5	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt_i	<1	<5
Total Phenolics	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	nt_i	<0.05	<0.005

Kurnell Landfill Environmental Monitoring Locations

EPA ID No.	Monitoring Location	Easting	Northing
3	BH3A	331557.559	6233612.570
4	BH4A	331555.149	6233531.497
5	BH5A	331325.514	6233723.575
6	BH6A	331588.552	6233160.367
7	BH7A	331293.2	6233053.87
8	BH8A	331005.488	6233233.894
9	BH9C	331540.67	6233420.14
11	BH10A	331819.08	6233299.27
12	BH11A	331350.35	6233170.05
13	BH12A	331166.433	6233699.572
14	BH13A	331447.247	6233662.638
15	BH14	331997.150	6233370.046
16	BH15	332482.813	6233510.587
17	BH16	332149.279	6233032.038
18	BH17	331432.560	6233696.015
19	BH18	330761.63	6233399.46
26	BH19B	332003	6233379
27	BH20	332200.120	6233439.830
28	BH22	332446.162	6233300.895
29	BH23	332254.027	6233075.673
30	BH24	331709.001	6232960.575
31	BH25	330974	6233693
1	LB02	331246	6233411

Kurnell Landfill Quarterly Subsurface Gas Results - 23 and 24 January 2023

EPA ID No.	Well ID	Initial well pressure above atmospheric (kPa)	Initial vent	Flow Rate L/hr	Initial well concentrations	Maximum vacuum on well (psi)	Recovery time (min)	Total volume purged (L)	Well concentrations following purging
					CH ₄ (%)				CH ₄ (%)
20	BH4A	-0.05	Nil	-0.3	<0.1	-10	<1	24	0.1
22	BH8B	0.21	Nil	0.2	<0.1	-10	<1	24	<0.1
23	BH12A	0.04	Nil	0.1	<0.1	-10	<1	10	<0.1
24	BH13A	0.21	Nil	0.1	<0.1	No vehicle access			
25	BH18	-0.05	Nil	-0.2	<0.1	No vehicle access			

BOLD Greater than the assessment criteria of 1.0 % CH₄