



Inverell Landfill

Sampling Point: All Monitoring Points	EPL No. 7463
Licence Period 19 November 2019 to 18 November 2020	Licensee: Inverell Shire Council
http://www.environment.nsw.gov.au/prpoeoapp/Detail.aspx?Instid=/463&id=/463&option=licence&searchrange=licence&range=POEO	144 Otho Street, Inverell
licence&prp=no&status=Issued	Monitoring Frequency - Quarterly

Date Sampled	6-Jul-20
Date Reported	29-Jul-20
Date Published	25-Aug-20

Sampling Notes:

The laboratory and field analysis results indicate that landfill leachate does not appear to be impacting groundwater at the monitoring locations. All groundwater monitoring bores were sampled, however the leachate dam was dry this round, so no sample was collected. Groundwater from the up gradient monitoring well BH1 exceeded the established threshold levels for nitrate (at 82 mg/L) and the L/N ratio (29.28). The continuing elevated nitrate and sulphate levels detected in monitoring well BH1 is not associated with any other landfill leachate indicators. Bores down gradient of the landfill did not have these characteristics. As this monitoring well is situated up gradient of the landfill, the elevated level of nitrate could be representative of an outside regional/local influence such as agriculture.

Sampling point	BH1	BH2a	BH2b	BD1 (BH2b)	BH3a	BH3b	BH4	BH5	LP1
EPA Identification Numbers	6	7	8	-	9	10	11	12	1
pH (field)	7.8	9.72	8.38	-	8.21	7.59	6.66	8.35	10.58
Conductivity	1,302	2,709	2,946	-	1,895	1225	3,472	994	439.5
Static Water Level	13.3	5.34	7.28	-	7.38	13.72	13.04	10.72	-
pH (lab)	7.1	6.9	7	7	7	7.1	6.9	7	7.8
TDS	855	1830	1960	1980	1270	825	2070	715	405
BOD	3	3	4	4	3	2	5	3	3
TOC	3	10	7	8	5	2	9	3	20
Total Phenols	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Iron	0.05	0.06	0.03	0.02	0.05	0.08	0.58	0.17	0.06
Dissolved Manganese	0.01	0.38	0.01	0.02	0.25	0.24	1	0.02	0.03
Sodium	42	275	360	355	165	110	175	73	40
Calcium	120	100	68	66	120	105	160	100	49
Potassium	2.4	1.6	1.9	2.1	1.5	3.6	2.3	2.4	15
Magnesium	115	255	270	270	165	81	325	47	36
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
Chloride	21	320	340	350	150	23	645	27	44
Fluoride	0.15	0.18	0.15	0.14	<0.1	<0.1	<0.1	<0.1	0.15
Nitrate	56	<0.1	0.31	0.31	<0.1	<0.1	<0.1	140	1.2
Sulfate	19	17	7	6	4	10	11	120	47
Bicarbonate	945	1720	1890	1870	1340	965	1510	420	325
Phosphate	0.12	<0.1	0.18	0.18	<0.1	<0.1	<0.1	0.12	0.15
Nitrite	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.33	<0.1
Total Alkalinity	775	1410	1550	1530	1100	790	1240	345	265
L/N	21.16	0.3	0.35	0.38	0.4	1.32	0.39	64.92	13.28
Total Phosphorus	<0.1	0.11	0.14	0.18	0.46	0.13	0.18	0.12	0.49
TKN	-	-	-	-	-	-	-	-	2.5

Table notes:

1. All measurements are in mg/L unless stated otherwise;

2. BD1 = blind field duplicate of BH2b;
3. Values preceded with < are below the limit of reporting (LOR);
4. Values in bold exceed threshold criteria;
5. * Threshold concentration derived from background aquifer chemistry;
6. (A1) Threshold concentration derived ANZG (2018); and
7. (H) Hardness Modified Trigger Value adjusted as per ANZG (2018) Table 3.
8. n.d not detected as various detection limits (reported in the laboratory results in the Letter report)
9. – not analysed or measured
10. Blank cell means that there is no threshold value.
11. † field pH should be viewed with caution, as although it calibrated, the pH measurements were consistently around 2 pH units higher than the expected pH. Laboratory pH for these samples are more reliable

