

Lindsay Ops Leachate		Exceeds Bylaw Value Exceeds PWQO Value														
Parameters	CKL Sewer Bylaw Limits (mg/L)	Provincial Water Quality Objectives (mg/L)	Jan. Results (mg/L)	Feb. Results (mg/L)	Mar. Results (mg/L)	April. Results (mg/L)	April. Results (mg/L) new cell	May Results (mg/L)	June Results (mg/L)	July Results (mg/L)	August Results (mg/L)	September Results (mg/L)	October. Results (mg/L) new cell	Oct Results (mg/L)	Nov Results (mg/L)	Dec Results (mg/L)
Hardness (CaCO3)	N/A	N/A	593	596	544	653	925	557	475	628	649	664	1090	666	610	580
Alkalinity (CaCO3)	N/A	N/A	609	599	601	482	1270	528	531	693	773	759	2380	731	610	543
Biochemical Oxygen Demand (BOD)	300	N/A	<3	19	8	7	262	4	3	5	4	n/a	62	< 3	5	5
TDS	N/A	N/A	991	1005	972	928	1550	796	743	1045	1144	1258	4318	1226	1017	868
Dissolved Organic Carbon	N/A	N/A	13.1	13.4	13.5	12.9	207	14.8	12.1	16.1	18.5	1.3	130	11.4	10	8.2
COD	N/A	N/A	73	62	63	56	644	40	38	76	78	112	692	87	59	50
Chloride	N/A	N/A	176	199	198	127	27.5	107	106	138	202	307	887	278	201	146
Ammonia (N) - Total	N/A	1.11	17.6	17.6	16.9	14.1	10	9.71	10.5	20.9	26.6	28.4	350	27.9	17.4	11.8
Fluoride	10	N/A	0.2	0.1	< 0.1	< 0.1	0.8	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 3	< 0.1	< 0.1	< 0.1
Phenolic, 4AAP	1	0.001	0.012	<0.002	< 0.002	< 0.002	0.14	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Sulphate	N/A	N/A	45	42	48	139	10	38	34	33	22	15	121	17	49	50
Nitrite	N/A	N/A	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 1	< 0.05	< 0.05	< 0.05
Nitrate	N/A	N/A	0.08	0.15	0.18	0.16	< 0.05	0.42	0.32	< 0.05	< 0.05	< 0.05	< 1	< 0.05	0.21	0.49
Kjeldahl Nitrogen - Total	50	N/A	19.7	20.5	20.8	17.6	104	10.9	10.5	25.2	30.7	35.8	364	35.3	18	14.9
Aluminum - Total	50	0.075*	0.27	0.12	0.12	0.68	0.13	0.1	0.08	0.15	0.1	0.07	0.62	0.1	0.11	0.11
Antimony - Total	5	0.02	<0.0005	<0.0001	< 0.0005	0.0006	0.0022	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.002	< 0.0005	< 0.0005	< 0.0005
Arsenic - Total	1	0.1	0.0024	0.0013	0.0008	0.0013	0.0107	0.0013	0.0009	0.0026	0.0012	0.0014	0.0189	0.0013	0.0015	0.0012
Barium	N/A	N/A	0.331	0.297	0.253	0.245	0.362	0.211	0.159	0.394	0.382	0.471	0.82	0.462	0.313	0.226
Beryllium	N/A	1.1**	<0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	N/A	0.2	0.382	0.426	0.37	0.299	2.95	0.281	0.278	0.509	0.54	0.632	9.68	0.605	0.411	0.3
Cadmium - Total	0.7	0.0002	<0.00007	<0.00015	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070
Calcium	N/A	N/A	179	175	160	211	273	184	154	184	186	186	267	186	185	185
Chromium - Total	2.8	0.0099	0.017	0.011	0.012	0.161	0.013	0.004	0.001	0.013	< 0.001	0.004	0.037	0.003	0.01	0.004
Cobalt - Total	5	0.0009	0.0013	0.007	0.0013	0.0025	0.0052	0.0009	0.0011	0.0015	0.001	0.0011	0.0159	0.0013	0.001	0.0008
Copper - Total	2	0.005	0.0042	0.0011	0.0011	0.0062	0.011	0.001	0.0015	0.0021	< 0.0005	< 0.0005	0.008	< 0.0005	0.0006	0.0011
Iron	N/A	0.3	27.7	11	5.64	21	7.96	20.9	10.8	45.5	14.4	15.1	59.6	11.8	13.9	13
Lead - Total	1	0.005	0.0025	0.00012	0.0002	0.0016	0.0016	0.0004	0.0001	0.0005	< 0.0001	< 0.0001	0.0013	0.0002	0.0005	0.0002
Magnesium	N/A	N/A	35.3	38.6	35.1	30.6	59.1	23.6	21.9	40.9	44.8	52	104	51.3	36.6	28.5
Manganese - Total	5	N/A	0.45	0.363	0.355	0.618	0.63	0.439	0.35	0.447	0.379	0.299	0.837	0.272	0.404	0.416
Mercury - Total	0.01	0.0002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum - Total	5	0.04	<0.0005	0.0002	< 0.0005	0.0022	0.0009	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0021	< 0.0005	0.0007	< 0.0005
Nickel - Total	2	0.025	0.01	0.01	0.01	0.07	0.03	< 0.01	< 0.01	0.01	< 0.01	0.01	0.09	0.01	0.01	< 0.01
Potassium	N/A	N/A	18.1	21.3	19.1	14.5	139	11.7	10.8	24	27.4	28.9	260	31.5	19	12.8
Phosphorus	N/A	N/A	<0.1	<0.1	< 0.1	0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	3.3	< 0.1	< 0.1	< 0.1
Phosphorus - Total	10	0.01	0.05	0.03	0.03	0.1	0.29	0.05	0.02	0.05	0.03	0.03	3.21	0.06	0.02	0.04
Selenium - Total	1	0.1	<0.005	<0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.012	< 0.005	< 0.005	< 0.005
Silver - Total	0.4	0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sodium	N/A	N/A	121	136	123	97.6	257	81.6	73	136	149	168	740	179	124	91.6
Strontium	N/A	10 bq/L	0.64 mg/L	0.715 mg/L	0.622	0.678	1.35	0.572	0.515	0.774	0.732	0.794	2.73	82.80%	0.679	0.6
Thallium	N/A	0.0003	<0.0003	<0.00005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Vanadium	N/A	0.006	0.0018	0.0009	0.0008	0.0025	0.0074	0.0009	0.0005	0.0018	0.0007	0.001	0.0239	0.001	0.001	0.0007
Zinc - Total	2	0.03	0.023	0.009	0.03	0.035	0.034	0.009	< 0.005	0.006	< 0.005	0.005	0.185	< 0.005	0.018	< 0.005
Benzene	0.01	0.1	0.0023	0.0007	0.0006	< 0.5	0.0007	< 0.0005	<0.0016	0.0006	< 0.0005	0.0018	0.0017	< 0.0005	0.0015	0.0019
Toluene	0.02	0.0008	<0.0005	<0.0005	<0.0005	< 0.0005	0.0126	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ethylbenzene	0.06	0.008	0.0027	<0.0005	<0.0005	< 0.0005	0.0006	< 0.0005	<0.0011	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0008
Xylene, m, p -	N/A	N/A	0.0042	<0.001	<0.001	< 0.001	0.0012	<0.001	<0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylene, o -	N/A	0.04	0.0005	<0.0005	<0.0005	< 0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Xylene, m, p, o -	N/A	N/A	0.0042	<0.0011	<0.0011	< 0.0011	0.0018	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011

Parameters	Limits	Provincial Water Quality Objectives	Jan. Results	Feb. Results	Mar. Results	April. Results	Apr. Results New Cell	May. Results	June. Results	July. Results	Aug. Results	Sept. Results	Oct. Results New Cell	Oct Results	Nov Results	Dec Results
pH (at 25 °C)	6.0 - 9.5	6.5 - 8.5	7.34	7.68	7.6	7.34	7.74	7.13	7.35	6.95	7.4	7.28	7.87	7.66	7.6	7.37
Conductivity (at 25 °C)	N/A	N/A	1750 µm ho/cm	1780 µm ho/cm	1790 µmho/cm	1590 µmho/cm	3490 µmho/cm	1370 µmho/cm	1350 µmho/cm	1860 µmho/cm	2000 µmho/cm	2160 µmho/cm	7050 µmho/cm	2110 µmho/cm	1750 µmho/cm	1540 µmho/cm
Conductivity (calculated)	N/A	N/A	1650 µm ho/cm	1720 µm ho/cm	1664 µmho/cm	1563 µmho/cm	2403 µmho/cm	1344 µmho/cm	1267 µmho/cm	1692 µmho/cm	1928 µmho/cm	2141 µmho/cm	6453 µmho/cm	2103 µmho/cm	1725 µmho/cm	1479 µmho/cm
Anion Sum	N/A	N/A	18.1 meq/L	18.5 meq/L	18.6 meq/L	16.1 meq/L	26.4 meq/L	14.4 meq/L	14.3 meq/L	18.4 meq/L	21.6 meq/L	24.1 meq/L	75.1 meq/L	22.8 meq/L	18.9 meq/L	16 meq/L
Cation Sum	N/A	N/A	20.3 meq/L	20.2 meq/L	18.2 meq/L	18.7 meq/L	34.4 meq/L	16.8 meq/L	14.3 meq/L	23 meq/L	22.8 meq/L	24.1 meq/L	88.5 meq/L	24.5 meq/L	20.1 meq/L	17.4 meq/L
% Difference	N/A	N/A	5.77%	4.51%	1.09%	7.29%	13.10%	7.78%	0.18%	11.00%	2.68%	0.02%	8.17%	3.55%	2.94%	415.00%
Ion Ratio (AS/CS)	N/A	N/A	0.891	0.914	1.02	0.864	0.769	0.856	1	0.801	0.948	1	0.849	0.931	0.943	0.92
Sodium Adsorption Ratio	N/A	N/A	2.16	2.42	2.29	1.66	3.68	1.5	1.46	2.36	2.54	2.84	9.73	3.02	2.18	1.66
TDS (calc.) / EC (actual)	N/A	N/A	0.567	0.565	0.542	0.585	0.444	0.58	0.551	0.561	0.572	0.582	0.612	0.581	0.582	0.562
Langelier Index (at 25°C)	N/A	N/A	0.875	1.19	1.08	0.845	1.77	0.635	0.78	0.543	1.05	0.903	2.12	1.27	1.14	0.88