APPENDIX K

Human Health Assessment

Table 1: Summary of Soil Chemical Laboratory Analysis Results - Site 1, Capping Materials

Determinand	Units	No. of Samples	Result	Screening Value	No. of Exceedances above Screening Value	Location of Exceedances
Metals and Inorganics						
Asbestos Identification	-	1	No Asbestos Detected	n/a	-	-
pH	pH Units	1	9.2	-	-	-
Arsenic	mg/kg	1	21	170*	0	-
Cadmium	mg/kg	1	0.89	560*	0	-
Chromium	mg/kg	1	18	33,000*	0	-
Copper	mg/kg	1	24	44,000*	0	-
Mercury	mg/kg	1	0.21	240*	0	-
Nickel	mg/kg	1	25	3,400*	0	-
Lead	mg/kg	1	140	1,300^	0	-
Selenium	mg/kg	1	< 0.20	1,800*	0	-
Vanadium	mg/kg	1	21	5,000*	0	-
Zinc	mg/kg	1	90	170,000*	0	-
Total petroleum hydrocarbons (TPH) and BTEX						
Aliphatic TPH >C5-C6	mg/kg	1	< 1.0	95,000**	0	-
Aliphatic TPH >C6-C8	mg/kg	1	< 1.0	150,000**	0	-
Aliphatic TPH >C8-C10	mg/kg	1	< 1.0	14,000**	0	-
Aliphatic TPH >C10-C12	mg/kg	1	< 1.0	21,000**	0	-
Aliphatic TPH >C12-C16	mg/kg	1	< 1.0	25,000**	0	-
Aliphatic TPH >C16-C21	mg/kg	1	< 1.0	450,000**	0	-
Aliphatic TPH >C21-C35	mg/kg	1	< 1.0	450,000**	0	-
Aliphatic TPH >C35-C44	mg/kg	1	< 1.0	450,000**	0	-
Total Aliphatic Hydrocarbons	mg/kg	1	< 5.0	-	-	-
Aromatic TPH >C5-C7	mg/kg	1	< 1.0	76,000**	0	-
Aromatic TPH >C7-C8	mg/kg	1	< 1.0	87,000**	0	-
Aromatic TPH >C8-C10	mg/kg	1	< 1.0	7,200**	0	-
Aromatic TPH >C10-C12	mg/kg	1	< 1.0	9,200**	0	-
Aromatic TPH >C12-C16	mg/kg	1	< 1.0	10,000**	0	-
Aromatic TPH >C16-C21	mg/kg	1	< 1.0	7,600**	0	-
Aromatic TPH >C21-C35	mg/kg	1	< 1.0	7,800**	0	-
Aromatic TPH >C35-C44	mg/kg	1	< 1.0	7,800**	0	-
Total Aromatic Hydrocarbons	mg/kg	1	< 5.0	-	-	-
Benzene	µg/kg	1	Below LoD	90 mg/kg **	0	-
Toluene	µg/kg	1	Below LoD	87,000 mg/kg **	0	-
Ethylbenzene	µg/kg	1	1.8	17,000 mg/kg **	0	-
m & p-Xylene	µg/kg	1	3.5	17,000 mg/kg **	0	-
o-Xylene	µg/kg	1	1.2	17,000 mg/kg **	0	-
Polycyclic aromatic hydrocarbons (PAH)						
Naphthalene	mg/kg	1	0.44	1,200 **	0	-
Acenaphthylene	mg/kg	1	< 0.10	29,000**	0	-
Acenaphthene	mg/kg	1	0.12	29,000**	0	-
Fluorene	mg/kg	1	0.1	20,000**	0	-
Phenanthrene	mg/kg	1	0.88	6,200**	0	-
Anthracene	mg/kg	1	0.23	150,000**	0	-
Fluoranthene	mg/kg	1	1.2	6,300**	0	-
Pyrene	mg/kg	1	1.2	15,000**	0	-
Benzo[a]anthracene	mg/kg	1	0.74	49	0	-
Chrysene	mg/kg	1	0.63	93	0	-
Benzo[b]fluoranthene	mg/kg	1	0.7	13	0	-
Benzo[k]fluoranthene	mg/kg	1	0.73	370	0	-
Benzo[a]pyrene	mg/kg	1	0.81	11	0	-
Indeno(1,2,3-c,d)Pyrene	mg/kg	1	0.81	150	0	-
Dibenz(a,h)Anthracene	mg/kg	1	< 0.10	1.1	0	-
Benzo[g,h,i]perylene	mg/kg	1	0.87	1,400**	0	-
VOC, SVOC and Phenols						
VOCs	µg/kg	1	Below LoD	-	-	-
SVOCs	mg/kg	1	Below LoD	-	-	-
Total Phenols	mg/kg	1	< 0.30	440	N	-

* Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario
** Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario assuming 1% Soil Organic Matter (SOM) content
^ Category 4 Screening Level (C4SL) for Public Open Space (parks) scenario

Table 2: Summary of Soil Chemical Laboratory Analysis Results - Site 1, Landfill Materials

Determinand	Units	No. of Samples	Minimum Concentration	Maximum Concentration	95% UCL (incl. outliers)	No. Outliers	Screening Value	Does 95% UCL Exceed Screening Value?	Number of Outliers Exceeding Screening Value	Location of Outliers Exceeding Screening Value
Metals and Inorganics										
Asbestos Identification	-	12	-	Cement Amosite Chrysotile TP13, 2.5 m	-	-	n/a	-	-	-
pH	pH Units	8	8	8.6	-	-	-	-	-	-
Arsenic	mg/kg	8	14	44	-	-	170*	-	-	-
Cadmium	mg/kg	8	0.8	2.2	-	-	560*	-	-	-
Chromium	mg/kg	8	18	48	-	-	33,000*	-	-	-
Copper	mg/kg	8	35	270	-	-	44,000*	-	-	-
Mercury	mg/kg	8	0.14	0.42	-	-	240*	-	-	-
Nickel	mg/kg	8	25	110	-	-	3,400*	-	-	-
Lead	mg/kg	8	55	330	-	-	1,300^	-	-	-
Selenium	mg/kg	8	< 0.20	0.37	-	-	1,800*	-	-	-
Vanadium	mg/kg	8	15	36	-	-	5,000*	-	-	-
Zinc	mg/kg	8	120	830	-	-	170,000*	-	-	-
Total petroleum hydrocarbons (TPH) and BTEX										
Aliphatic TPH >C5-C6	mg/kg	8	< 1.0	0	-	-	95,000**	-	-	-
Aliphatic TPH >C6-C8	mg/kg	8	< 1.0	0	-	-	150,000**	-	-	-
Aliphatic TPH >C8-C10	mg/kg	8	< 1.0	100	-	-	14,000**	-	-	-
Aliphatic TPH >C10-C12	mg/kg	8	< 1.0	120	-	-	21,000**	-	-	-
Aliphatic TPH >C12-C16	mg/kg	8	< 1.0	110	-	-	25,000**	-	-	-
Aliphatic TPH >C16-C21	mg/kg	8	< 1.0	140	-	-	450,000**	-	-	-
Aliphatic TPH >C21-C35	mg/kg	8	< 1.0	970	-	-	450,000**	-	-	-
Aliphatic TPH >C35-C44	mg/kg	8	< 1.0	280	-	-	450,000**	-	-	-
Total Aliphatic Hydrocarbons	mg/kg	8	< 5.0	1500	-	-	-	-	-	-
Aromatic TPH >C5-C7	mg/kg	8	< 1.0	0	-	-	76,000**	-	-	-
Aromatic TPH >C7-C8	mg/kg	8	< 1.0	4.5	-	-	87,000**	-	-	-
Aromatic TPH >C8-C10	mg/kg	8	< 1.0	88	-	-	7,200**	-	-	-
Aromatic TPH >C10-C12	mg/kg	8	< 1.0	60	-	-	9,200**	-	-	-
Aromatic TPH >C12-C16	mg/kg	8	< 1.0	64	-	-	10,000**	-	-	-
Aromatic TPH >C16-C21	mg/kg	8	< 1.0	150	-	-	7,600**	-	-	-
Aromatic TPH >C21-C35	mg/kg	8	< 1.0	500	-	-	7,800**	-	-	-
Aromatic TPH >C35-C44	mg/kg	8	< 1.0	160	-	-	7,800**	-	-	-
Total Aromatic Hydrocarbons	mg/kg	8	< 5.0	810	-	-	-	-	-	-
Benzene	µg/kg	8	2.8	6.1	-	-	90 mg/kg **	-	-	-
Toluene	µg/kg	8	1.3	120	-	-	87,000 mg/kg **	-	-	-
Ethylbenzene	µg/kg	8	1.7	220	-	-	17,000 mg/kg **	-	-	-
m & p-Xylene	µg/kg	8	3.1	4700	-	-	17,000 mg/kg **	-	-	-
o-Xylene	µg/kg	8	1.5	1200	-	-	17,000 mg/kg **	-	-	-
Polycyclic aromatic hydrocarbons (PAH)										
Naphthalene	mg/kg	8	< 0.10	1.8	-	-	1,200 **	-	-	-
Acenaphthylene	mg/kg	8	< 0.10	0.87	-	-	29,000**	-	-	-
Acenaphthene	mg/kg	8	< 0.10	8.7	-	-	29,000**	-	-	-
Fluorene	mg/kg	8	< 0.10	9.9	-	-	20,000**	-	-	-
Phenanthrene	mg/kg	8	< 0.10	53	-	-	6,200**	-	-	-
Anthracene	mg/kg	8	< 0.10	17	-	-	150,000**	-	-	-
Fluoranthene	mg/kg	8	< 0.10	42	-	-	6,300**	-	-	-
Pyrene	mg/kg	8	< 0.10	31	-	-	15,000**	-	-	-
Benzo[a]anthracene	mg/kg	8	< 0.10	19	-	-	49**	-	-	-
Chrysene	mg/kg	8	< 0.10	15	-	-	93**	-	-	-
Benzo[b]fluoranthene	mg/kg	8	< 0.10	19	13.06	2	13**	Yes	1	LG13, 6.0m
Dibenz(a,h)Anthracene	mg/kg	8	< 0.10	1.9	1.4	3	1.1**	Yes	1	LG13, 6.0m
Benzo[k]fluoranthene	mg/kg	8	< 0.10	8.9	-	-	370**	-	-	-
Benzo[a]pyrene	mg/kg	8	< 0.10	15	10.3	2	11**	No	1	LG11 6.0m
Indeno(1,2,3-c,d)Pyrene	mg/kg	8	< 0.10	7.6	-	-	150**	-	-	-
Benzo[g,h,i]perylene	mg/kg	8	<0.1	7	-	-	1,400**	-	-	-
VOCs and SVOCs (results above Laboratory Detection Limit), and Phenols										
Benzo[g,h,i]perylene	mg/kg	8	< 0.10	7.3	-	-	1,400**	-	-	-
Total Of 16 PAH's	mg/kg	8	< 2.0	170	-	-	-	-	-	-
cis 1,2-Dichloroethene	µg/kg	8	5.7	5.7	-	-	-	-	-	-
Chlorobenzene	µg/kg	8	22	180	-	-	-	-	-	-
Isopropylbenzene	µg/kg	8	1.5	68	-	-	-	-	-	-
N-Propylbenzene	µg/kg	8	3.2	64	-	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	8	1.6	130	-	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	8	2.2	500	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	8	28	28	-	-	-	-	-	-
4-Isopropyltoluene	µg/kg	8	12	97	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	8	150	150	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	8	230	230	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	8	< 0.10	2.1	-	-	-	-	-	-
Dibenzofuran	mg/kg	8	< 0.10	1.5	-	-	-	-	-	-
Carbazole	mg/kg	8	< 0.10	1.1	-	-	-	-	-	-
Total Phenols	mg/kg	8	<0.3	< 0.3	-	-	440**	-	-	-

Dataset includes LG13 (0.5mGBL) which may be assumed as capping layer, however the available logs indicate the presence of waste therefore this sample has been interpreted as part of the waste strata

* Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario
** Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario assuming 1% Soil Organic Matter (SOM) content
^ Category 4 Screening Level (C4SL) for Public Open Space (parks) scenario

Table 3: Summary of Soil Chemical Laboratory Analysis Results - Site 2, Capping Materials

Determinand	Units	No. of Samples	Result	Screening Value	No. of Exceedances above Screening Value	Location of Exceedances
Metals and Inorganics						
Asbestos Identification	-	4	No Asbestos Detected	n/a	-	-
pH	pH Units	1	8.4	-	-	-
Arsenic	mg/kg	1	25	170*	0	-
Cadmium	mg/kg	1	0.94	560*	0	-
Chromium	mg/kg	1	24	33,000*	0	-
Copper	mg/kg	1	31	44,000*	0	-
Mercury	mg/kg	1	0.15	240*	0	-
Nickel	mg/kg	1	35	3,400*	0	-
Lead	mg/kg	1	61	1,300^	0	-
Selenium	mg/kg	1	0.58	1,800*	0	-
Vanadium	mg/kg	1	30	5,000*	0	-
Zinc	mg/kg	1	92	170,000*	0	-
Total petroleum hydrocarbons (TPH) and BTEX						
Aliphatic TPH >C5-C6	mg/kg	1	< 1.0	95,000**	0	-
Aliphatic TPH >C6-C8	mg/kg	1	< 1.0	150,000**	0	-
Aliphatic TPH >C8-C10	mg/kg	1	< 1.0	14,000**	0	-
Aliphatic TPH >C10-C12	mg/kg	1	< 1.0	21,000**	0	-
Aliphatic TPH >C12-C16	mg/kg	1	< 1.0	25,000**	0	-
Aliphatic TPH >C16-C21	mg/kg	1	< 1.0	450,000**	0	-
Aliphatic TPH >C21-C35	mg/kg	1	< 1.0	450,000**	0	-
Aliphatic TPH >C35-C44	mg/kg	1	< 1.0	450,000**	0	-
Total Aliphatic Hydrocarbons	mg/kg	1	< 5.0	-	-	-
Aromatic TPH >C5-C7	mg/kg	1	< 1.0	76,000**	0	-
Aromatic TPH >C7-C8	mg/kg	1	< 1.0	87,000**	0	-
Aromatic TPH >C8-C10	mg/kg	1	< 1.0	7,200**	0	-
Aromatic TPH >C10-C12	mg/kg	1	< 1.0	9,200**	0	-
Aromatic TPH >C12-C16	mg/kg	1	< 1.0	10,000**	0	-
Aromatic TPH >C16-C21	mg/kg	1	7	7,600**	0	-
Aromatic TPH >C21-C35	mg/kg	1	10	7,800**	0	-
Aromatic TPH >C35-C44	mg/kg	1	< 1.0	7,800**	0	-
Total Aromatic Hydrocarbons	mg/kg	1	17	-	-	-
Polycyclic aromatic hydrocarbons (PAH)						
Naphthalene	mg/kg	1	0.36	1,200 **	0	-
Acenaphthylene	mg/kg	1	0.37	29,000**	0	-
Acenaphthene	mg/kg	1	0.14	29,000**	0	-
Fluorene	mg/kg	1	0.37	20,000**	0	-
Phenanthrene	mg/kg	1	3	6,200**	0	-
Anthracene	mg/kg	1	1.3	150,000**	0	-
Fluoranthene	mg/kg	1	5.5	6,300**	0	-
Pyrene	mg/kg	1	5	15,000**	0	-
Benzo[a]anthracene	mg/kg	1	3.8	49**	0	-
Chrysene	mg/kg	1	3.7	93**	0	-
Benzo[b]fluoranthene	mg/kg	1	4.2	13**	0	-
Benzo[k]fluoranthene	mg/kg	1	2.1	370**	0	-
Benzo[a]pyrene	mg/kg	1	4	11**	0	-
Indeno(1,2,3-c,d)Pyrene	mg/kg	1	3.5	150**	0	-
Dibenz(a,h)Anthracene	mg/kg	1	1.2	1.1**	1	LG10, 0.0m
Benzo[g,h,i]perylene	mg/kg	1	3.1	1,400**	0	-
VOCs, SVOCs and Phenols						
SVOCs	mg/kg	1	Below LoD	-	-	-
VOCs	µg/kg	1	Below LoD	-	-	-
Total Phenols	mg/kg	1	< 0.30	440	N	-

* Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario

** Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario assuming 1% Soil Organic Matter (SOM) content

^ Category 4 Screening Level (C4SL) for Public Open Space (parks) scenario

Table 4: Summary of Soil Chemical Laboratory Analysis Results - Site 2, Landfill Materials

Determinand	Units	No. of Samples	Minimum Concentration	Maximum Concentration	95% UCL (incl. outliers)	No. Outliers	Screening Value	Does 95% UCL Exceed Screening Value?	Number of Outliers Exceeding Screening Value	Location of Outliers Exceeding Screening Value
Metals and Inorganics										
Asbestos Identification	-	14	-	No Asbestos Detected	-	-	n/a	-	-	-
pH	pH Units	12	7.8	8.8	-	-	-	-	-	-
Arsenic	mg/kg	15	6.4	34	-	-	170*	-	-	-
Cadmium	mg/kg	15	0.7	41	-	-	560*	-	-	-
Chromium	mg/kg	15	8.5	199	-	-	33,000*	-	-	-
Copper	mg/kg	15	19	1202	-	-	44,000*	-	-	-
Mercury	mg/kg	15	0.11	0.37	-	-	240*	-	-	-
Nickel	mg/kg	15	12	559	-	-	3,400*	-	-	-
Lead	mg/kg	15	30	4955	1903.07	5	1,300^	Yes	1	TP5(M)
Selenium	mg/kg	15	0.35	2	-	-	1,800*	-	-	-
Vanadium	mg/kg	12	9.7	31	-	-	5,000*	-	-	-
Zinc	mg/kg	15	72	5242	-	-	170,000*	-	-	-
Total petroleum hydrocarbons (TPH) and BTEX										
Aliphatic TPH >C5-C6	mg/kg	12	0	0	-	-	95,000**	-	-	-
Aliphatic TPH >C6-C8	mg/kg	12	41	49	-	-	150,000**	-	-	-
Aliphatic TPH >C8-C10	mg/kg	12	4.1	69	-	-	14,000**	-	-	-
Aliphatic TPH >C10-C12	mg/kg	12	5.9	46	-	-	21,000**	-	-	-
Aliphatic TPH >C12-C16	mg/kg	12	4.3	57	-	-	25,000**	-	-	-
Aliphatic TPH >C16-C21	mg/kg	12	19	81	-	-	450,000**	-	-	-
Aliphatic TPH >C21-C35	mg/kg	12	170	670	-	-	450,000**	-	-	-
Aliphatic TPH >C35-C44	mg/kg	12	1.5	31	-	-	450,000**	-	-	-
Total Aliphatic Hydrocarbons	mg/kg	12	170	900	-	-	-	-	-	-
Aromatic TPH >C5-C7	mg/kg	12	27	27	-	-	76,000**	-	-	-
Aromatic TPH >C7-C8	mg/kg	12	1.8	1.8	-	-	87,000^*	-	-	-
Aromatic TPH >C8-C10	mg/kg	12	9	49	-	-	7,200**	-	-	-
Aromatic TPH >C10-C12	mg/kg	12	1.9	94	-	-	9,200**	-	-	-
Aromatic TPH >C12-C16	mg/kg	12	2.2	160	-	-	10,000^*	-	-	-
Aromatic TPH >C16-C21	mg/kg	12	4.7	310	-	-	7,600**	-	-	-
Aromatic TPH >C21-C35	mg/kg	12	30	350	-	-	7,800**	-	-	-
Aromatic TPH >C35-C44	mg/kg	12	7.1	48	-	-	7,800**	-	-	-
Total Aromatic Hydrocarbons	mg/kg	12	72	3000	-	-	-	-	-	-
Benzene	µg/kg	12	-	Below LoD	-	-	90 mg/kg **	-	-	-
Toluene	µg/kg	12	1.6	4.9	-	-	87,000 mg/kg **	-	-	-
Ethylbenzene	µg/kg	12	2.2	8.7	-	-	17,000 mg/kg **	-	-	-
m & p-Xylene	µg/kg	12	1.5	34	-	-	17,000 mg/kg **	-	-	-
o-Xylene	µg/kg	12	1.5	18	-	-	17,000 mg/kg **	-	-	-
Polycyclic aromatic hydrocarbons (PAH)										
Naphthalene	mg/kg	12	0.32	2.2	-	-	1,200 **	-	-	-
Acenaphthylene	mg/kg	12	0.19	1.2	-	-	29,000**	-	-	-
Acenaphthene	mg/kg	12	0.28	1.3	-	-	29,000**	-	-	-
Fluorene	mg/kg	12	0.4	2.7	-	-	20,000**	-	-	-
Phenanthrene	mg/kg	12	0.74	14	-	-	6,200**	-	-	-
Anthracene	mg/kg	12	0.14	3.8	-	-	150,000**	-	-	-
Fluoranthene	mg/kg	12	0.12	16	-	-	6,300**	-	-	-
Pyrene	mg/kg	12	0.1	15	-	-	15,000**	-	-	-
Benzo[a]anthracene	mg/kg	12	0.59	10	-	-	49**	-	-	-
Chrysene	mg/kg	12	0.75	11	-	-	93**	-	-	-
Benzo[b]fluoranthene	mg/kg	12	0.56	12	-	-	13**	-	-	-
Benzo[k]fluoranthene	mg/kg	12	0.21	5	-	-	370**	-	-	-
Benzo[a]pyrene	mg/kg	12	0.41	10	-	-	11**	-	-	-
Indeno(1,2,3-c,d)Pyrene	mg/kg	12	0.37	6.7	-	-	150**	-	-	-
Dibenz[a,h]Anthracene	mg/kg	12	0.11	2.9	1.39	3	1.1**	Yes	1	LG04, 6.5m
Benzo[g,h,i]perylene	mg/kg	12	0.35	7.5	-	-	1,400**	-	-	-
VOC and SVOC (results above Laboratory Detection Limit), and Phenols										
Chloromethane	µg/kg	12	2.6	2.6	-	-	-	-	-	-
Trichlorofluoromethane	µg/kg	12	23	23	-	-	-	-	-	-
Isopropylbenzene	µg/kg	12	1.7	4.9	-	-	12,000#	-	-	-
N-Propylbenzene	µg/kg	12	4.6	15	-	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	12	1.8	30	-	-	-	-	-	-
Tert-Butylbenzene	µg/kg	12	6.1	6.1	-	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	12	4.2	120	-	-	410#	-	-	-
Sec-Butylbenzene	µg/kg	12	4	9.1	-	-	-	-	-	-
4-Isopropyltoluene	µg/kg	12	2.3	39	-	-	-	-	-	-
Total Phenols	mg/kg	12	0.48	4.8	-	-	440**	-	-	-

Dataset includes LG7 (0.5mGBL), LG02 (0.0 mBGL) and LG04 (0.6 mBGL) which may be assumed as capping layer, however the available logs indicate the presence of waste therefore this sample has been interpreted as part of the waste strata.

* Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario
** Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario assuming 1% Soil Organic Matter (SOM) content
^ Category 4 Screening Level (C4SL) for Public Open Space (parks) scenario
# CL:AIRE Generic Assessment Criteria (GAC) for Residential without plant Uptake scenario, assuming 1% SOM

Table 5: Summary of Soil Chemical Laboratory Analysis Results - Site 3A, Landfill Materials

Determinand	Units	No. of Samples	Min	Max	Screening Value	No. of Exceedances above Screening Value	Location of Exceedances
Metals and Inorganics							
Asbestos Identification	-	7	-	No Asbestos Detected	n/a	-	-
pH	pH Units	6	7.5	8.5	-	-	-
Arsenic	mg/kg	6	9.3	38	170*	0	-
Cadmium	mg/kg	6	0.88	4.7	560*	0	-
Chromium	mg/kg	6	12	51	33,000*	0	-
Copper	mg/kg	6	18	300	44,000*	0	-
Mercury	mg/kg	6	0.11	0.34	240*	0	-
Nickel	mg/kg	6	20	48	3,400*	0	-
Lead	mg/kg	6	27	540	1,300^	0	-
Selenium	mg/kg	6	0.38	1.3	1,800*	0	-
Vanadium	mg/kg	6	14	90	5,000*	0	-
Zinc	mg/kg	6	72	1100	170,000*	0	-
Total petroleum hydrocarbons (TPH) and BTEX							
Aliphatic TPH >C5-C6	mg/kg	6	-	Below LoD	95,000**	0	-
Aliphatic TPH >C6-C8	mg/kg	6	-	Below LoD	150,000**	0	-
Aliphatic TPH >C8-C10	mg/kg	6	8.7	17	14,000**	0	-
Aliphatic TPH >C10-C12	mg/kg	6	8	13	21,000**	0	-
Aliphatic TPH >C12-C16	mg/kg	6	12	23	25,000**	0	-
Aliphatic TPH >C16-C21	mg/kg	6	57	66	450,000**	0	-
Aliphatic TPH >C21-C35	mg/kg	6	390	830	450,000**	0	-
Aliphatic TPH >C35-C44	mg/kg	6	3	12	450,000**	0	-
Total Aliphatic Hydrocarbons	mg/kg	6	490	940	-	-	-
Aromatic TPH >C5-C7	mg/kg	6	-	Below LoD	76,000**	0	-
Aromatic TPH >C7-C8	mg/kg	6	2.2	2.2	87,000*#	0	-
Aromatic TPH >C8-C10	mg/kg	6	6.3	30	7,200**	0	-
Aromatic TPH >C10-C12	mg/kg	6	29	44	9,200**	0	-
Aromatic TPH >C12-C16	mg/kg	6	7.7	9.1	10,000**	0	-
Aromatic TPH >C16-C21	mg/kg	6	4.5	22	7,600**	0	-
Aromatic TPH >C21-C35	mg/kg	6	180	280	7,800**	0	-
Aromatic TPH >C35-C44	mg/kg	6	80	80	7,800**	0	-
Total Aromatic Hydrocarbons	mg/kg	6	260	440	-	-	-
Benzene	µg/kg	6	4.30	6.8	90 mg/kg **	0	-
Toluene	µg/kg	6	9.90	28	87,000 mg/kg **	0	-
Ethylbenzene	µg/kg	6	5.80	43	17,000 mg/kg **	0	-
m & p-Xylene	µg/kg	6	9.00	140	17,000 mg/kg **	0	-
o-Xylene	µg/kg	6	4.20	65	17,000 mg/kg **	0	-
Polycyclic aromatic hydrocarbons (PAH)							
Naphthalene	mg/kg	6	0.36	1.8	1,200 **	0	-
Acenaphthylene	mg/kg	6	0.14	0.93	29,000**	0	-
Acenaphthene	mg/kg	6	0.33	1.4	29,000**	0	-
Fluorene	mg/kg	6	0.16	1.5	20,000**	0	-
Phenanthrene	mg/kg	6	0.29	3.7	6,200**	0	-
Anthracene	mg/kg	6	0.11	0.64	150,000**	0	-
Fluoranthene	mg/kg	6	0.31	3.2	6,300**	0	-
Pyrene	mg/kg	6	0.5	3.7	15,000*#	0	-
Benzo[a]anthracene	mg/kg	6	0.23	3.6	49**	0	-
Chrysene	mg/kg	6	0.31	5.8	93**	0	-
Benzo[b]fluoranthene	mg/kg	6	-	Below LoD	13**	0	-
Benzo[k]fluoranthene	mg/kg	6	-	Below LoD	370**	0	-
Benzo[a]pyrene	mg/kg	6	-	Below LoD	11**	0	-
Indeno(1,2,3-c,d)Pyrene	mg/kg	6	-	Below LoD	150**	0	-
Dibenz(a,h)Anthracene	mg/kg	6	-	Below LoD	1.1**	0	-
Benzo[g,h,i]perylene	mg/kg	6	-	Below LoD	1,400**	0	-
VOC's and SVOC's (results above Laboratory Detection Limit), and Phenols							
cis 1,2-Dichloroethene	µg/kg	6	4.20	66	-	-	-
Tetrachloroethene	µg/kg	6	1.80	1.8	810,000#	0	-
Isopropylbenzene	µg/kg	6	2.00	3.5	12,000#	0	-
N-Propylbenzene	µg/kg	6	1.50	10	-	-	-
1,3,5-Trimethylbenzene	µg/kg	6	4.20	25	-	-	-
1,2,4-Trimethylbenzene	µg/kg	6	11.00	82	410#	0	-
4-Isopropyltoluene	µg/kg	6	2.10	870	-	-	-
Total Phenols	mg/kg	6	< 0.30	1.7	410*	0	-

Dataset includes LG15 (0.0mGBL) and LG19 (0.0 mBGL) which may be assumed as capping layer, however the available logs indicate the presence of waste therefore this sample has been interpreted as part of the waste strata.

* Suitable 4 Use Level [S4UL] for Public Open Space (parks) scenario
** Suitable 4 Use Level [S4UL] for Public Open Space (parks) scenario assuming 1% Soil Organic Matter (SOM) content
^ Category 4 Screening Level [C4SL] for Public Open Space (parks) scenario
# CL:AIRE Generic Assessment Criteria (GAC) for Residential without plant uptake scenario, assuming 1% SOM

Table 6: Summary of Soil Chemical Laboratory Analysis Results - Site 3B, Landfill Materials

Determinand	Units	No. of Samples	Min	Max	Screening Value	No. of Exceedances above Screening Value	Location of Exceedances
Metals and Inorganics							
Asbestos Identification	-	9	-	No Asbestos Detected	n/a	-	-
pH	pH Units	5	8.2	9.1	-	-	-
Arsenic	mg/kg	5	6.8	20	170*	0	-
Cadmium	mg/kg	5	0.78	1.8	560*	0	-
Chromium	mg/kg	5	17	140	33,000*	0	-
Copper	mg/kg	5	14	140	44,000*	0	-
Mercury	mg/kg	5	0.45	0.45	240*	0	-
Nickel	mg/kg	5	20	36	3,400*	0	-
Lead	mg/kg	5	24	180	1,300^	0	-
Selenium	mg/kg	5	0.44	1	1,800*	0	-
Vanadium	mg/kg	5	11	30	5,000*	0	-
Zinc	mg/kg	5	61	1,900	170,000*	0	-
Total petroleum hydrocarbons (TPH) and BTEX							
Aliphatic TPH >C5-C6	mg/kg	5	-	Below LoD	95,000**	0	-
Aliphatic TPH >C6-C8	mg/kg	5	-	Below LoD	150,000**	0	-
Aliphatic TPH >C8-C10	mg/kg	5	49	320	14,000**	0	-
Aliphatic TPH >C10-C12	mg/kg	5	39	240	21,000**	0	-
Aliphatic TPH >C12-C16	mg/kg	5	14	130	25,000**	0	-
Aliphatic TPH >C16-C21	mg/kg	5	44	540	450,000**	0	-
Aliphatic TPH >C21-C35	mg/kg	5	310	3,000	450,000**	0	-
Aliphatic TPH >C35-C44	mg/kg	5	470	470	450,000**	0	-
Total Aliphatic Hydrocarbons	mg/kg	5	920	4,300	-	-	-
Aromatic TPH >C5-C7	mg/kg	5	-	Below LoD	76,000**	0	-
Aromatic TPH >C7-C8	mg/kg	5	-	Below LoD	87,000**	0	-
Aromatic TPH >C8-C10	mg/kg	5	57	69	7,200**	0	-
Aromatic TPH >C10-C12	mg/kg	5	110	140	9,200**	0	-
Aromatic TPH >C12-C16	mg/kg	5	23	240	10,000**	0	-
Aromatic TPH >C16-C21	mg/kg	5	230	430	7,600**	0	-
Aromatic TPH >C21-C35	mg/kg	5	230	960	7,800**	0	-
Aromatic TPH >C35-C44	mg/kg	5	5.2	54	7,800**	0	-
Total Aromatic Hydrocarbons	mg/kg	5	700	1,800	-	-	-
Benzene	µg/kg	5	2.2	2.2	90 mg/kg **	0	-
Toluene	µg/kg	5	13	94	87,000 mg/kg **	0	-
Ethylbenzene	µg/kg	5	7.1	27	17,000 mg/kg **	0	-
m & p-Xylene	µg/kg	5	24	110	17,000 mg/kg **	0	-
o-Xylene	µg/kg	5	8.9	48	17,000 mg/kg **	0	-
Polycyclic aromatic hydrocarbons (PAH)							
Naphthalene	mg/kg	5	< 0.10	1.1	1,200 **	0	-
Acenaphthylene	mg/kg	5	<0.10	0.53	29,000**	0	-
Acenaphthene	mg/kg	5	< 0.10	0.39	29,000**	0	-
Fluorene	mg/kg	5	<0.10	0.63	20,000**	0	-
Phenanthrene	mg/kg	5	< 0.10	1.4	6,200**	0	-
Anthracene	mg/kg	5	<0.10	0.29	150,000**	0	-
Fluoranthene	mg/kg	5	1.2	3.2	6,300**	0	-
Pyrene	mg/kg	5	0.11	5.3	15,000**	0	-
Benzo[a]anthracene	mg/kg	5	< 0.10	1.7	49**	0	-
Chrysene	mg/kg	5	<0.10	0.88	93**	0	-
Benzo[b]fluoranthene	mg/kg	5	-	Below LoD	13**	0	-
Benzo[k]fluoranthene	mg/kg	5	-	Below LoD	370**	0	-
Benzo[a]pyrene	mg/kg	5	-	Below LoD	11**	0	-
Indeno(1,2,3-c,d)Pyrene	mg/kg	5	-	Below LoD	150**	0	-
Dibenz(a,h)Anthracene	mg/kg	5	-	Below LoD	1.1**	0	-
Benzo[g,h,i]perylene	mg/kg	5	-	Below LoD	1,400**	0	-
VOC's and SVOC's (results above Laboratory Detection Limit), and Phenols							
Trichlorofluoromethane	µg/kg	5	7.5	7.5	-	-	-
cis 1,2-Dichloroethene	µg/kg	5	38	38	-	-	-
Isopropylbenzene	µg/kg	5	5.8	8.8	12,000#	0	-
N-Propylbenzene	µg/kg	5	4.8	17	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	1.7	27	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	2.8	94	410#	0	-
Sec-Butylbenzene	µg/kg	5	5.6	5.6	-	-	-
4-Isopropyltoluene	µg/kg	5	160	300	-	-	-
Total Phenols	mg/kg	5	0.68	6.4	440**	0	-

Dataset includes LG17 (0.3mGBL) and LG21 (0.0 mBGL) which may be assumed as capping layer, however the available logs indicate the presence of waste therefore this sample has been interpreted as part of the waste strata.

* Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario

** Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario assuming 1% Soil Organic Matter (SOM) content

^ Category 4 Screening Level (C4SL) for Public Open Space (parks) scenario

CL:AIRE Generic Assessment Criteria (GAC) for Residential without plant uptake scenario, assuming 1% SOM

Table 7: Summary of Soil Chemical Laboratory Analysis Results - Site 3C, Landfill Materials

Determinand	Units	No. of Samples	Min	Max	Screening Value	No. of Exceedances above Screening Value	Location of Exceedances
Metals and Inorganics							
Asbestos Identification	-	5	-	No Asbestos Detected	n/a	-	-
pH	pH Units	3	3	8.9	-	-	-
Arsenic	mg/kg	2	34	38	170*	0	-
Cadmium	mg/kg	2	1.1	1.3	560*	0	-
Chromium	mg/kg	2	18	25	33,000*	0	-
Copper	mg/kg	2	34	88	44,000*	0	-
Mercury	mg/kg	2	< 0.10	0.19	240*	0	-
Nickel	mg/kg	2	28	36	3,400*	0	-
Lead	mg/kg	2	53	220	1,300^	0	-
Selenium	mg/kg	2	0.55	0.91	1,800*	0	-
Vanadium	mg/kg	2	85	89	5,000*	0	-
Zinc	mg/kg	2	160	280	170,000*	0	-
Total petroleum hydrocarbons (TPH) and BTEX							
Aliphatic TPH >C5-C6	mg/kg	2	-	Below LoD	95,000**	0	-
Aliphatic TPH >C6-C8	mg/kg	2	-	Below LoD	150,000**	0	-
Aliphatic TPH >C8-C10	mg/kg	2	3.8	21	14,000**	0	-
Aliphatic TPH >C10-C12	mg/kg	2	7.8	8.6	21,000**	0	-
Aliphatic TPH >C12-C16	mg/kg	2	1	29	25,000**	0	-
Aliphatic TPH >C16-C21	mg/kg	2	6.3	80	450,000**	0	-
Aliphatic TPH >C21-C35	mg/kg	2	160	240	450,000**	0	-
Aliphatic TPH >C35-C44	mg/kg	2	2.9	220	450,000**	0	-
Total Aliphatic Hydrocarbons	mg/kg	2	280	500	-	-	-
Aromatic TPH >C5-C7	mg/kg	2	-	Below LoD	76,000**	0	-
Aromatic TPH >C7-C8	mg/kg	2	-	Below LoD	87,000**	0	-
Aromatic TPH >C8-C10	mg/kg	2	3.4	3.9	7,200**	0	-
Aromatic TPH >C10-C12	mg/kg	2	15	15	9,200**	0	-
Aromatic TPH >C12-C16	mg/kg	2	< 1.0	11	10,000**	0	-
Aromatic TPH >C16-C21	mg/kg	2	< 1.0	30	7,600**	0	-
Aromatic TPH >C21-C35	mg/kg	2	50	210	7,800**	0	-
Aromatic TPH >C35-C44	mg/kg	2	< 1.0	4.4	7,800**	0	-
Total Aromatic Hydrocarbons	mg/kg	2	69	270	-	-	-
Benzene	µg/kg	2	-	Below LoD	90 mg/kg **	0	-
Toluene	µg/kg	2	5.9	12	87,000 mg/kg **	0	-
Ethylbenzene	µg/kg	2	17	62	17,000 mg/kg **	0	-
m & p-Xylene	µg/kg	2	58	64	17,000 mg/kg **	0	-
o-Xylene	µg/kg	2	31	32	17,000 mg/kg **	0	-
Polycyclic aromatic hydrocarbons (PAH)							
Naphthalene	mg/kg	2	0.13	0.33	1,200 **	0	-
Acenaphthylene	mg/kg	2	0.2	0.39	29,000**	0	-
Acenaphthene	mg/kg	2	0.11	0.64	29,000**	0	-
Fluorene	mg/kg	2	0.15	0.79	20,000**	0	-
Phenanthrene	mg/kg	2	0.46	3.1	6,200**	0	-
Anthracene	mg/kg	2	0.18	0.91	150,000**	0	-
Fluoranthene	mg/kg	2	0.13	2.5	6,300**	0	-
Pyrene	mg/kg	2	0.19	3.4	15,000**	0	-
Benzo[a]anthracene	mg/kg	2	-	Below LoD	49**	0	-
Chrysene	mg/kg	2	-	Below LoD	93**	0	-
Benzo[b]fluoranthene	mg/kg	2	-	Below LoD	13**	0	-
Benzo[k]fluoranthene	mg/kg	2	-	Below LoD	370**	0	-
Benzo[a]pyrene	mg/kg	2	-	Below LoD	11**	0	-
Indeno(1,2,3-c,d)Pyrene	mg/kg	2	-	Below LoD	150**	0	-
Dibenz(a,h)Anthracene	mg/kg	2	-	Below LoD	1.1**	0	-
Benzo[g,h,i]perylene	mg/kg	2	-	Below LoD	1,400**	0	-
VOC's and SVOC's (results above Laboratory Detection Limit), and Phenols							
Isopropylbenzene	µg/kg	2	1.7	4.1	12,000#	0	-
N-Propylbenzene	µg/kg	2	11	11	-	-	-
1,3,5-Trimethylbenzene	µg/kg	2	21	21	-	-	-
Tert-Butylbenzene	µg/kg	2	7.3	7.3	-	-	-
1,2,4-Trimethylbenzene	µg/kg	2	6.4	64	410#	0	-
4-Isopropyltoluene	µg/kg	2	180	410	-	-	-
Total Phenols	mg/kg	3	0.85	0.85	440**	0	-

Dataset includes LG14 (0.0mGBL) which may be assumed as capping layer, however the available logs indicate the presence of waste therefore this sample has been interpreted as part of the waste strata.

* Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario

** Suitable 4 Use Level (S4UL) for Public Open Space (parks) scenario assuming 1% Soil Organic Matter (SOM) content

^ Category 4 Screening Level (C4SL) for Public Open Space (parks) scenario

CL:AIRE Generic Assessment Criteria (GAC) for Residential without plant uptake scenario, assuming 1% SOM