ANNEX D7 THERMAL OXIDIZER, LANDFILL GAS FLARE AND LANDFILL GAS GENERATOR STACK EMISSION MONITORING RESULTS

TABLE D7.1 THERMAL OXIDISER STACK EMISSION MONITORING RESULTS

Parameters	Monitoring Results
NO_2	1.04 gs^{-1}
CO	0.02 gs^{-1}
SO_2	<0.01 gs^{-1}
Benzene	<1.0 x 10-4 gs^{-1}
Vinyl chloride	<9.0 x 10-5 gs^{-1}
Non-Methane Organic Carbon	0.003 gs^{-1}
Ammonia	0.0341 gs^{-1}
Exhaust gas velocity	8.3 ms^{-1}

TABLE D7.2 THERMAL OXIDISER STACK CONTINUOUS MONITORING RESULTS

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]
1 Feb 24	925	1215	
2 Feb 24	926	1218	
3 Feb 24	925	1212	
4 Feb 24	925	1213	
5 Feb 24	923	1211	
6 Feb 24	925	1210	
7 Feb 24	926	1214	
8 Feb 24	925	1209	
9 Feb 24	926	1208	
10 Feb 24	925	1208	
11 Feb 24	928	1211	
12 Feb 24	927	1210	
13 Feb 24	924	1210	
14 Feb 24	925	1211	
15 Feb 24	925	1214	
16 Feb 24	925	1215	
17 Feb 24	924	1213	8.3
18 Feb 24	911	1220	
19 Feb 24	925	1215	
20 Feb 24	930	1217	
21 Feb 24	923	1217	
22 Feb 24	924	1223	
23 Feb 24	922	1214	
24 Feb 24	925	1214	
25 Feb 24	924	1210	
26 Feb 24	923	1212	
27 Feb 24	930	1216	
28 Feb 24	922	1213	
29 Feb 24	927	1218	
Average	925	1213	-
Min	911	1208	-
Max	930	1223	-

Notes:

(a) The exhaust gas velocity was calculated based on the cross-section area of the stack and the gas flow and combustion temperature data measured during the stack emission monitoring.

TABLE D7.3 LANDFILL GAS FLARE STACK EMISSION MONITORING RESULTS

Parameters	Monitoring Results
NO_2	<0.02 gs^{-1}
CO	0.02 gs^{-1}
SO_2	<0.01 gs^{-1}
Benzene	<1.27 x 10-4 gs^{-1}
Vinyl chloride	<1.02 x 10-4 gs^{-1}
Non-Methane Organic Carbon	0.003 gs^{-1}
Exhaust gas velocity	8.9 ms^{-1}

TABLE D7.4 LANDFILL GAS FLARE STACK CONTINUOUS MONITORING RESULTS

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
Flare 1 – F601				
1 Feb 24	860	1081	8.9	In Operation
2 Feb 24	869	1075		In Operation
3 Feb 24	885	1099		In Operation
4 Feb 24	929	1182		In Operation
5 Feb 24	881	1112		In Operation
6 Feb 24	917	1136		In Operation
7 Feb 24	865	1106		In Operation
8 Feb 24	912	1134		In Operation
9 Feb 24	892	1117		In Operation
10 Feb 24	868	1091		In Operation
11 Feb 24	891	1112		In Operation
12 Feb 24	879	1118		In Operation
13 Feb 24	886	1094		In Operation
14 Feb 24	893	1141		In Operation
15 Feb 24	923	1149		In Operation
16 Feb 24	879	1083		In Operation
17 Feb 24	897	1146		In Operation
18 Feb 24	897	1107		In Operation
19 Feb 24	874	1124		In Operation
20 Feb 24	927	1153		In Operation
21 Feb 24	930	1184		In Operation
22 Feb 24	875	1128		In Operation
23 Feb 24	916	1131		In Operation
24 Feb 24	924	1133		In Operation
25 Feb 24	912	1159		In Operation
26 Feb 24	884	1120		In Operation
27 Feb 24	921	1135		In Operation
28 Feb 24	898	1126		In Operation
29 Feb 24	880	1104		In Operation
Average	895	1124	-	
Min	860	1075	-	
Max	930	1184	-	

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
Flare 2 – F602				
1 Feb 24	941	1183		In Operation
2 Feb 24	980	1230		In Operation
3 Feb 24	961	1195		In Operation
4 Feb 24	931	1180		In Operation
5 Feb 24	948	1183		In Operation
6 Feb 24	961	1194		In Operation
7 Feb 24	967	1202		In Operation
8 Feb 24	946	1199		In Operation
9 Feb 24	970	1219		In Operation
10 Feb 24	953	1202		In Operation
11 Feb 24	949	1194		In Operation
12 Feb 24	931	1172		In Operation
13 Feb 24	929	1182		In Operation
14 Feb 24	934	1172		In Operation
15 Feb 24	924	1161		In Operation
16 Feb 24	955	1208		In Operation
17 Feb 24	933	1183		In Operation
18 Feb 24	920	1155		In Operation
19 Feb 24	951	1185		In Operation
20 Feb 24	929	1163	8.9	In Operation
21 Feb 24	974	1224		In Operation
22 Feb 24	980	1233		In Operation
23 Feb 24	974	1225		In Operation
24 Feb 24	950	1183		In Operation
25 Feb 24	926	1165		In Operation
26 Feb 24	944	1183		In Operation
27 Feb 24	980	1225		In Operation
28 Feb 24	975	1228		In Operation
29 Feb 24	929	1172		In Operation
Average	950	1193	-	
Min	920	1155	-	
Max	980	1233	-	

Notes:

(a) The exhaust gas velocity was calculated based on the cross-section area of the stack and the gas flow and combustion temperature data measured during the stack emission monitoring.

TABLE D7.5 LANDFILL GAS GENERATOR STACK EMISSION MONITORING RESULTS

Parameters	Monitoring Results
NO_2	0.014 gs^{-1}
CO	0.963 gs^{-1}
SO_2	<0.001 gs^{-1}
Benzene	1.2 x 10-4 gs^{-1}
Vinyl chloride	<8.8 x 10-6 gs^{-1}
Non- Methane Organic Carbons	5.2 x 10^{-3} gs^{-1}
Exhaust gas velocity	10.8 ms^{-1}
(a) The Landfill Gas Generator was under maintenance in the reporting period	

TABLE D7.6 LANDFILL GAS GENERATOR STACK CONTINUOUS MONITORING RESULTS

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
ENGA			
1 Feb 24	900	10.8	In Operation
2 Feb 24	898		In Operation
3 Feb 24	890		In Operation
4 Feb 24	884		In Operation
5 Feb 24	-		Under Maintenance
6 Feb 24	-		Under Maintenance
7 Feb 24	-		Under Maintenance
8 Feb 24	-		Under Maintenance
9 Feb 24	857		In Operation
10 Feb 24	859		In Operation
11 Feb 24	860		In Operation
12 Feb 24	862		In Operation
13 Feb 24	864		In Operation
14 Feb 24	871		In Operation
15 Feb 24	875		In Operation
16 Feb 24	876		In Operation
17 Feb 24	877		In Operation
18 Feb 24	880		In Operation
19 Feb 24	880		In Operation
20 Feb 24	-		Under Maintenance
21 Feb 24	-		Under Maintenance
22 Feb 24	-		Under Maintenance
23 Feb 24	869		In Operation
24 Feb 24	868		In Operation
25 Feb 24	869		In Operation
26 Feb 24	872		In Operation
27 Feb 24	872		In Operation
28 Feb 24	874		In Operation
29 Feb 24	871		In Operation
Average	874	-	
Min	857	-	
Max	900	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status
ENGB			
1 Feb 24	-		Under Maintenance
2 Feb 24	-		Under Maintenance
3 Feb 24	-		Under Maintenance
4 Feb 24	-		Under Maintenance
5 Feb 24	853		In Operation
6 Feb 24	870		In Operation
7 Feb 24	867		In Operation
8 Feb 24	856		In Operation
9 Feb 24	-		Under Maintenance
10 Feb 24	-		Under Maintenance
11 Feb 24	-		Under Maintenance
12 Feb 24	-		Under Maintenance
13 Feb 24	-		Under Maintenance
14 Feb 24	-		Under Maintenance
15 Feb 24	-		Under Maintenance
16 Feb 24	-		Under Maintenance
17 Feb 24	-	10.8	Under Maintenance
18 Feb 24	-		Under Maintenance
19 Feb 24	-		Under Maintenance
20 Feb 24	877		In Operation
21 Feb 24	870		In Operation
22 Feb 24	876		In Operation
23 Feb 24	-		Under Maintenance
24 Feb 24	-		Under Maintenance
25 Feb 24	-		Under Maintenance
26 Feb 24	-		Under Maintenance
27 Feb 24	-		Under Maintenance
28 Feb 24	-		Under Maintenance
29 Feb 24	-		Under Maintenance
Average	855	-	
Min	844	-	
Max	866	-	

Notes:

(a) The exhaust gas velocity was calculated based on the cross-section area of the stack and the gas flow and combustion temperature data measured during the stack emission monitoring.