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	1.07 gs^{-1}
CO	0.02 gs^{-1}
SO_2	<0.01 gs^{-1}
Benzene	3.0 x 10^{-4} gs^{-1}
Vinyl chloride	<1.3 x 10^{-4} gs^{-1}
Exhaust gas velocity	9.2 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 Oct 24	897	1199	
2 Oct 24	902	1198	
3 Oct 24	902	1197	
4 Oct 24	901	1199	
5 Oct 24	900	1201	
6 Oct 24	906	1204	
7 Oct 24	902	1201	
8 Oct 24	902	1200	
9 Oct 24	901	1199	
10 Oct 24	900	1199	
11 Oct 24	902	1199	
12 Oct 24	901	1197	
13 Oct 24	900	1199	
14 Oct 24	899	1198	
15 Oct 24	902	1200	9.2
16 Oct 24	903	1197	
17 Oct 24	900	1200	
18 Oct 24	904	1203	
19 Oct 24	901	1200	
20 Oct 24	903	1201	
21 Oct 24	Under Maintenance		
22 Oct 24	Under Maintenance		
23 Oct 24	Under Maintenance		
24 Oct 24	Under Maintenance		
25 Oct 24	Under Maintenance		
26 Oct 24	Under Maintenance		
27 Oct 24	Under Maintenance		
28 Oct 24	Under Maintenance		
29 Oct 24	900	922	
30 Oct 24	900	924	
31 Oct 24	893	887	
Average	901	1198	-
Min	893	1160	-
Max	906	1204	-

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	0.04 gs^{-1}
SO_2	0.04 gs^{-1}
Benzene	$<1.28 \times 10^{-4}$ gs^{-1}
Vinyl chloride	$<1.02 \times 10^{-4}$ gs^{-1}
Exhaust gas velocity	8.5 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 Oct 24	872	1138	8.5	In Operation
2 Oct 24	868	1132		In Operation
3 Oct 24	847	1113		In Operation
4 Oct 24	875	1139		In Operation
5 Oct 24	854	1119		In Operation
6 Oct 24	859	1125		In Operation
7 Oct 24	840	1103		In Operation
8 Oct 24	856	1121		In Operation
9 Oct 24	846	1114		In Operation
10 Oct 24	831	1096		In Operation
11 Oct 24	835	1101		In Operation
12 Oct 24	851	1115		In Operation
13 Oct 24	862	1130		In Operation
14 Oct 24	832	1095		In Operation
15 Oct 24	848	1105		In Operation
16 Oct 24	856	1122		In Operation
17 Oct 24	886	1153		In Operation
18 Oct 24	837	1105		In Operation
19 Oct 24	860	1124		In Operation
20 Oct 24	864	1130		In Operation
21 Oct 24	878	1134		In Operation
22 Oct 24	829	1096		In Operation
23 Oct 24	830	1094		In Operation
24 Oct 24	826	1094		In Operation
25 Oct 24	858	1122		In Operation
26 Oct 24	845	1112		In Operation
27 Oct 24	848	1111		In Operation
28 Oct 24	858	1222		In Operation
29 Oct 24	880	1144		In Operation
30 Oct 24	836	1100		In Operation
31 Oct 24	830	1097		In Operation
Average	852	1120	-	
Min	826	1094	-	
Max	886	1222	-	

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
Flare 2 – F602				
1 Oct 24	907	1174	8.5	In Operation
2 Oct 24	903	1169		In Operation
3 Oct 24	885	1152		In Operation
4 Oct 24	882	1146		In Operation
5 Oct 24	924	1189		In Operation
6 Oct 24	861	1127		In Operation
7 Oct 24	862	1125		In Operation
8 Oct 24	872	1135		In Operation
9 Oct 24	888	1151		In Operation
10 Oct 24	864	1132		In Operation
11 Oct 24	876	1139		In Operation
12 Oct 24	865	1132		In Operation
13 Oct 24	902	1166		In Operation
14 Oct 24	890	1158		In Operation
15 Oct 24	854	1119		In Operation
16 Oct 24	901	1168		In Operation
17 Oct 24	898	1162		In Operation
18 Oct 24	889	1152		In Operation
19 Oct 24	878	1146		In Operation
20 Oct 24	876	1142		In Operation
21 Oct 24	922	1190		In Operation
22 Oct 24	859	1127		In Operation
23 Oct 24	874	1141		In Operation
24 Oct 24	872	1138		In Operation
25 Oct 24	873	1140		In Operation
26 Oct 24	870	1133		In Operation
27 Oct 24	877	1144		In Operation
28 Oct 24	864	1128		In Operation
29 Oct 24	886	1154		In Operation
30 Oct 24	902	1167		In Operation
31 Oct 24	849	1115		In Operation
Average	881	1147	-	
Min	849	1115	-	
Max	924	1190	-	

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	0.037 gs^{-1}
CO	0.824 gs^{-1}
SO_2	<0.001 gs^{-1}
Benzene	9.3×10^{-5} gs^{-1}
Vinyl chloride	$<8.7 \times 10^{-6}$ gs^{-1}
Exhaust gas velocity	10.9 ms^{-1}

TABLE D7.6 LANDFILL GAS GENERATOR STACK CONTINUOUS MONITORING RESULTS

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
ENGA			
1 Oct 24	851	10.9	In Operation
2 Oct 24	850		In Operation
3 Oct 24	848		In Operation
4 Oct 24	846		In Operation
5 Oct 24	849		In Operation
6 Oct 24	-		Under Maintenance
7 Oct 24	859		In Operation
8 Oct 24	840		In Operation
9 Oct 24	851		In Operation
10 Oct 24	854		In Operation
11 Oct 24	845		In Operation
12 Oct 24	-		Under Maintenance
13 Oct 24	-		Under Maintenance
14 Oct 24	855		In Operation
15 Oct 24	885		In Operation
16 Oct 24	-		Under Maintenance
17 Oct 24	853		In Operation
18 Oct 24	855		In Operation
19 Oct 24	839		In Operation
20 Oct 24	-		Under Maintenance
21 Oct 24	876		In Operation
22 Oct 24	-		Under Maintenance
23 Oct 24	-		Under Maintenance
24 Oct 24	-		Under Maintenance
25 Oct 24	-		Under Maintenance
26 Oct 24	-		Under Maintenance
27 Oct 24	-		Under Maintenance
28 Oct 24	853		In Operation
29 Oct 24	850		In Operation
30 Oct 24	872		In Operation
31 Oct 24	876		In Operation
Average	856	-	
Min	839	-	
Max	885	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status
ENGB			
1 Oct 24	863	10.9	In Operation
2 Oct 24	859		In Operation
3 Oct 24	860		In Operation
4 Oct 24	862		In Operation
5 Oct 24	865		In Operation
6 Oct 24	866		In Operation
7 Oct 24	832		In Operation
8 Oct 24	832		In Operation
9 Oct 24	863		In Operation
10 Oct 24	865		In Operation
11 Oct 24	863		In Operation
12 Oct 24	864		In Operation
13 Oct 24	866		In Operation
14 Oct 24	867		In Operation
15 Oct 24	868		In Operation
16 Oct 24	869		In Operation
17 Oct 24	870		In Operation
18 Oct 24	871		In Operation
19 Oct 24	871		In Operation
20 Oct 24	857		In Operation
21 Oct 24	853		In Operation
22 Oct 24	851		In Operation
23 Oct 24	846		In Operation
24 Oct 24	846		In Operation
25 Oct 24	848		In Operation
26 Oct 24	856		In Operation
27 Oct 24	853		In Operation
28 Oct 24	866		In Operation
29 Oct 24	867		In Operation
30 Oct 24	868		In Operation
31 Oct 24	-		Under Maintenance
Average	860	-	
Min	832	-	
Max	871	-	

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.