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	0.71 gs^{-1}
CO	0.03 gs^{-1}
SO_2	<0.01 gs^{-1}
Benzene	<2.0 x 10^{-4} gs^{-1}
Vinyl chloride	<1.5 x 10^{-4} gs^{-1}
Exhaust gas velocity	10.2 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 Jan 24	937	1210	
2 Jan 24	931	1204	
3 Jan 24	920	1193	
4 Jan 24	917	1190	
5 Jan 24	920	1193	
6 Jan 24	919	1192	
7 Jan 24	918	1191	
8 Jan 24	917	1190	
9 Jan 24	918	1191	
10 Jan 24	921	1194	
11 Jan 24	915	1188	
12 Jan 24	920	1193	
13 Jan 24	916	1189	
14 Jan 24	919	1192	
15 Jan 24	-	-	
16 Jan 24	-	-	
17 Jan 24	-	-	10.2
18 Jan 24	-	-	
19 Jan 24	-	-	
20 Jan 24	-	-	
21 Jan 24	-	-	
22 Jan 24	-	-	
23 Jan 24	-	-	
24 Jan 24	911	1184	
25 Jan 24	917	1190	
26 Jan 24	922	1195	
27 Jan 24	930	1203	
28 Jan 24	933	1206	
29 Jan 24	936	1209	
30 Jan 24	940	1213	
31 Jan 24	941	1214	
Average	926	1197	-
Min	923	1184	-
Max	930	1214	-

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	0.04 gs^{-1}
CO	0.03 gs^{-1}
SO_2	0.086 gs^{-1}
Benzene	$<1.37 \times 10^{-4}$ gs^{-1}
Vinyl chloride	$<1.1 \times 10^{-4}$ gs^{-1}
Exhaust gas velocity	10.0 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 Jan 24	836	1077	10.0	In Operation
2 Jan 24	840	1113		In Operation
3 Jan 24	863	1136		In Operation
4 Jan 24	893	1166		In Operation
5 Jan 24	913	1186		In Operation
6 Jan 24	888	1161		In Operation
7 Jan 24	853	1126		In Operation
8 Jan 24	963	1236		In Operation
9 Jan 24	842	1115		In Operation
10 Jan 24	859	1132		In Operation
11 Jan 24	854	1127		In Operation
12 Jan 24	866	1139		In Operation
13 Jan 24	899	1172		In Operation
14 Jan 24	844	1085		In Operation
15 Jan 24	855	1089		In Operation
16 Jan 24	869	1115		In Operation
17 Jan 24	903	1133		In Operation
18 Jan 24	923	1176		In Operation
19 Jan 24	901	1157		In Operation
20 Jan 24	868	1106		In Operation
21 Jan 24	971	1258		In Operation
22 Jan 24	851	1092		In Operation
23 Jan 24	868	1126		In Operation
24 Jan 24	869	1132		In Operation
25 Jan 24	873	1119		In Operation
26 Jan 24	905	1159		In Operation
27 Jan 24	931	1178		In Operation
28 Jan 24	908	1157		In Operation
29 Jan 24	919	1167		In Operation
30 Jan 24	981	1228		In Operation
31 Jan 24	955	1203		In Operation
Average	887	1148	-	
Min	836	1077	-	
Max	981	1258	-	

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
Flare 2 – F602				
1 Jan 24	950	1191		In Operation
2 Jan 24	932	1175		In Operation
3 Jan 24	929	1171		In Operation
4 Jan 24	932	1173		In Operation
5 Jan 24	961	1198		In Operation
6 Jan 24	934	1171		In Operation
7 Jan 24	921	1155		In Operation
8 Jan 24	996	1233		In Operation
9 Jan 24	978	1214		In Operation
10 Jan 24	980	1215		In Operation
11 Jan 24	881	1117		In Operation
12 Jan 24	955	1194		In Operation
13 Jan 24	991	1230		In Operation
14 Jan 24	922	1157		In Operation
15 Jan 24	924	1151		In Operation
16 Jan 24	911	1158		In Operation
17 Jan 24	907	1135		In Operation
18 Jan 24	922	1145		In Operation
19 Jan 24	944	1103		In Operation
20 Jan 24	913	1143	10.0	In Operation
21 Jan 24	899	1136		In Operation
22 Jan 24	981	1223		In Operation
23 Jan 24	964	1183		In Operation
24 Jan 24	965	1168		In Operation
25 Jan 24	864	1074		In Operation
26 Jan 24	930	1169		In Operation
27 Jan 24	973	1142		In Operation
28 Jan 24	912	1085		In Operation
29 Jan 24	951	1132		In Operation
30 Jan 24	884	1052		In Operation
31 Jan 24	906	1112		In Operation
Average	938	1162	-	
Min	864	1052	-	
Max	996	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	0.071 gs^{-1}
CO	1.06 gs^{-1}
SO_2	<5.00 x 10^{-4} gs^{-1}
Benzene	8.7 x 10^{-5} gs^{-1}
Vinyl chloride	<1.1 x 10^{-5} gs^{-1}
Exhaust gas velocity	11.6 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 Jan 24	881	11.6	In Operation
2 Jan 24	880		In Operation
3 Jan 24	877		In Operation
4 Jan 24	879		In Operation
5 Jan 24	883		In Operation
6 Jan 24	883		In Operation
7 Jan 24	883		In Operation
8 Jan 24	883		In Operation
9 Jan 24	885		In Operation
10 Jan 24	-		Under Maintenance
11 Jan 24	-		Under Maintenance
12 Jan 24	-		Under Maintenance
13 Jan 24	-		Under Maintenance
14 Jan 24	-		Under Maintenance
15 Jan 24	-		Under Maintenance
16 Jan 24	-		Under Maintenance
17 Jan 24	-		Under Maintenance
18 Jan 24	-		Under Maintenance
19 Jan 24	-		Under Maintenance
20 Jan 24	-		Under Maintenance
21 Jan 24	-		Under Maintenance
22 Jan 24	-		Under Maintenance
23 Jan 24	-		Under Maintenance
24 Jan 24	-		Under Maintenance
25 Jan 24	-		Under Maintenance
26 Jan 24	873		In Operation
27 Jan 24	874		In Operation
28 Jan 24	875		In Operation
29 Jan 24	877		In Operation
30 Jan 24	879		In Operation
31 Jan 24	889		In Operation
Average	880	-	
Min	873	-	
Max	889	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status
ENGB			
1 Jan 24	-		Under Maintenance
2 Jan 24	-		Under Maintenance
3 Jan 24	-		Under Maintenance
4 Jan 24	-		Under Maintenance
5 Jan 24	-		Under Maintenance
6 Jan 24	-		Under Maintenance
7 Jan 24	-		Under Maintenance
8 Jan 24	-		Under Maintenance
9 Jan 24	-		Under Maintenance
10 Jan 24	863		In Operation
11 Jan 24	864		In Operation
12 Jan 24	864		In Operation
13 Jan 24	865		In Operation
14 Jan 24	865		In Operation
15 Jan 24	844		In Operation
16 Jan 24	845		In Operation
17 Jan 24	845	11.6	In Operation
18 Jan 24	846		In Operation
19 Jan 24	847		In Operation
20 Jan 24	851		In Operation
21 Jan 24	853		In Operation
22 Jan 24	850		In Operation
23 Jan 24	849		In Operation
24 Jan 24	864		In Operation
25 Jan 24	866		In Operation
26 Jan 24	-		Under Maintenance
27 Jan 24	-		Under Maintenance
28 Jan 24	-		Under Maintenance
29 Jan 24	-		Under Maintenance
30 Jan 24	-		Under Maintenance
31 Jan 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.