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

TABLE D7.1 THERMAL OXIDISER STACK EMIISION MONITORING RESULTS

Parameters	Monitoring Results
NO_2	0.68 gs^{-1}
CO	0.03 gs^{-1}
SO_2	<0.005 gs^{-1}
Benzene	<2.0 x 10^{-4} gs^{-1}
Vinyl chloride	<1.0 x 10^{-4} gs^{-1}
Exhaust gas velocity	7.7 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 Dec 23	923	1207	
2 Dec 23	927	1210	
3 Dec 23	927	1211	
4 Dec 23	924	1211	
5 Dec 23	925	1212	
6 Dec 23	926	1212	
7 Dec 23	927	1215	
8 Dec 23	925	1214	
9 Dec 23	926	1218	
10 Dec 23	924	1217	
11 Dec 23	928	1221	
12 Dec 23	926	1206	
13 Dec 23	928	1218	
14 Dec 23	926	1215	
15 Dec 23	926	1214	
16 Dec 23	927	1204	
17 Dec 23	925	1204	7.7
18 Dec 23	928	1208	
19 Dec 23	935	1207	
20 Dec 23	924	1215	
21 Dec 23	927	1209	
22 Dec 23	925	1209	
23 Dec 23	923	1212	
24 Dec 23	927	1214	
25 Dec 23	927	1211	
26 Dec 23	925	1211	
27 Dec 23	925	1213	
28 Dec 23	924	1211	
29 Dec 23	927	1213	
30 Dec 23	925	1212	
31 Dec 23	926	1212	
Average	926	1212	-
Min	923	1204	-
Max	935	1221	-

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 EMIISION MONITORING RESULTS

Parameters	Monitoring Results
NO_2	0.03 gs^{-1}
CO	0.02 gs^{-1}
SO_2	<0.01 gs^{-1}
Benzene	<1.26 x 10^{-4} gs^{-1}
Vinyl chloride	<1.01 x 10^{-4} gs^{-1}
Exhaust gas velocity	9.0 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 Dec 23	990	1143	9.0	In Operation
2 Dec 23	880	1123		In Operation
3 Dec 23	990	1143		In Operation
4 Dec 23	960	1153		In Operation
5 Dec 23	990	1143		In Operation
6 Dec 23	990	1233		In Operation
7 Dec 23	860	1103		In Operation
8 Dec 23	990	1123		In Operation
9 Dec 23	860	1113		In Operation
10 Dec 23	980	1153		In Operation
11 Dec 23	980	1123		In Operation
12 Dec 23	990	1253		In Operation
13 Dec 23	890	1083		In Operation
14 Dec 23	940	1113		In Operation
15 Dec 23	990	1123		In Operation
16 Dec 23	990	1253		In Operation
17 Dec 23	850	1083		In Operation
18 Dec 23	860	1093		In Operation
19 Dec 23	850	1053		In Operation
20 Dec 23	850	1063		In Operation
21 Dec 23	890	1093		In Operation
22 Dec 23	910	1093		In Operation
23 Dec 23	920	1133		In Operation
24 Dec 23	950	1143		In Operation
25 Dec 23	850	1083		In Operation
26 Dec 23	890	1093		In Operation
27 Dec 23	830	1033		In Operation
28 Dec 23	980	1143		In Operation
29 Dec 23	840	1043		In Operation
30 Dec 23	830	1053		In Operation
31 Dec 23	890	1053		In Operation
Average	918	1117	-	
Min	830	1033	-	
Max	990	1253	-	

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
Flare 2 – F602				
1 Dec 23	860	1053		In Operation
2 Dec 23	830	1043		In Operation
3 Dec 23	860	1043		In Operation
4 Dec 23	840	993		In Operation
5 Dec 23	850	1013		In Operation
6 Dec 23	960	1143		In Operation
7 Dec 23	910	1093		In Operation
8 Dec 23	840	1063		In Operation
9 Dec 23	850	1023		In Operation
10 Dec 23	840	1013		In Operation
11 Dec 23	840	993		In Operation
12 Dec 23	860	1023		In Operation
13 Dec 23	880	1043		In Operation
14 Dec 23	880	1093		In Operation
15 Dec 23	860	1013		In Operation
16 Dec 23	850	993		In Operation
17 Dec 23	-	-		Under Maintenance
18 Dec 23	-	-		Under Maintenance
19 Dec 23	-	-		Under Maintenance
20 Dec 23	-	-	9.0	Under Maintenance
21 Dec 23	860	1093		In Operation
22 Dec 23	840	1053		In Operation
23 Dec 23	860	1043		In Operation
24 Dec 23	880	1063		In Operation
25 Dec 23	880	1063		In Operation
26 Dec 23	-	-		Under Maintenance
27 Dec 23	880	1083		In Operation
28 Dec 23	870	1053		In Operation
29 Dec 23	830	1053		In Operation
30 Dec 23	840	1063		In Operation
31 Dec 23	750	923		In Operation
Average	858	1044	-	
Min	750	923	-	
Max	960	1143	-	

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 EMIISION MONITORING RESULTS

Parameters	Monitoring Results
NO_2	0.075 gs^{-1}
CO	0.994 gs^{-1}
SO_2	$<4.00 \times 10^{-4}$ gs^{-1}
Benzene	1.86×10^{-4} gs^{-1}
Vinyl chloride	$<9.5 \times 10^{-6}$ gs^{-1}
Exhaust gas velocity	10.5 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 Dec 23	-	10.5	Under Maintenance
2 Dec 23	-		Under Maintenance
3 Dec 23	-		Under Maintenance
4 Dec 23	873		In Operation
5 Dec 23	873		In Operation
6 Dec 23	873		In Operation
7 Dec 23	869		In Operation
8 Dec 23	873		In Operation
9 Dec 23	876		In Operation
10 Dec 23	879		In Operation
11 Dec 23	880		In Operation
12 Dec 23	882		In Operation
13 Dec 23	880		In Operation
14 Dec 23	882		In Operation
15 Dec 23	884		In Operation
16 Dec 23	883		In Operation
17 Dec 23	875		In Operation
18 Dec 23	880		In Operation
19 Dec 23	877		In Operation
20 Dec 23	873		In Operation
21 Dec 23	872		In Operation
22 Dec 23	869		In Operation
23 Dec 23	871		In Operation
24 Dec 23	871		In Operation
25 Dec 23	871		In Operation
26 Dec 23	872		In Operation
27 Dec 23	875		In Operation
28 Dec 23	876		In Operation
29 Dec 23	884		In Operation
30 Dec 23	882		In Operation
31 Dec 23	884		In Operation
Average	877	-	
Min	869	-	
Max	884	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status
ENGB			
1 Dec 23	869	10.5	In Operation
2 Dec 23	868		In Operation
3 Dec 23	869		In Operation
4 Dec 23	869		In Operation
5 Dec 23	-		Under Maintenance
6 Dec 23	-		Under Maintenance
7 Dec 23	-		Under Maintenance
8 Dec 23	-		Under Maintenance
9 Dec 23	-		Under Maintenance
10 Dec 23	-		Under Maintenance
11 Dec 23	-		Under Maintenance
12 Dec 23	-		Under Maintenance
13 Dec 23	-		Under Maintenance
14 Dec 23	-		Under Maintenance
15 Dec 23	-		Under Maintenance
16 Dec 23	-		Under Maintenance
17 Dec 23	-		Under Maintenance
18 Dec 23	-		Under Maintenance
19 Dec 23	-		Under Maintenance
20 Dec 23	-		Under Maintenance
21 Dec 23	-		Under Maintenance
22 Dec 23	-		Under Maintenance
23 Dec 23	-		Under Maintenance
24 Dec 23	-		Under Maintenance
25 Dec 23	-		Under Maintenance
26 Dec 23	-		Under Maintenance
27 Dec 23	-		Under Maintenance
28 Dec 23	-		Under Maintenance
29 Dec 23	-		Under Maintenance
30 Dec 23	-		Under Maintenance
31 Dec 23	-		Under Maintenance
Average	869	-	
Min	868	-	
Max	869	-	

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.