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	1.56 gs^{-1}
CO	0.02 gs^{-1}
SO_2	<0.01 gs^{-1}
Benzene	$<2.0 \times 10^{-4}$ gs^{-1}
Vinyl chloride	$<1.5 \times 10^{-4}$ gs^{-1}
Exhaust gas velocity	8.2 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 25	898	1200	
2 Jan 25	901	1198	
3 Jan 25	899	1194	
4 Jan 25	900	1194	
5 Jan 25	902	1198	
6 Jan 25	900	1194	
7 Jan 25	902	1195	
8 Jan 25	901	1195	
9 Jan 25	897	1192	
10 Jan 25	897	1189	
11 Jan 25	900	1189	
12 Jan 25	899	1189	
13 Jan 25	898	1200	
14 Jan 25	901	1202	
15 Jan 25	899	1201	8.2
16 Jan 25	901	1199	
17 Jan 25	900	1198	
18 Jan 25	900	1197	
19 Jan 25	899	1200	
20 Jan 25	901	1199	
21 Jan 25	897	1198	
22 Jan 25	Under Maintenance		
23 Jan 25	900	1198	
24 Jan 25	898	1200	
25 Jan 25	907	1201	
26 Jan 25	902	1200	
27 Jan 25	902	1189	
28 Jan 25	898	1195	
29 Jan 25	901	1195	
30 Jan 25	Under Maintenance		
31 Jan 25	Under Maintenance		
Average	900	1196	-
Min	897	1189	-
Max	907	1202	-

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	0.03 gs^{-1}
CO	0.02 gs^{-1}
SO_2	0.05 gs^{-1}
Benzene	1.4×10^{-4} gs^{-1}
Vinyl chloride	1.12×10^{-4} gs^{-1}
Exhaust gas velocity	8.0 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 25	820	1113	8.0	In Operation
2 Jan 25	880	1193		In Operation
3 Jan 25	820	1123		In Operation
4 Jan 25	825	1123		In Operation
5 Jan 25	825	1123		In Operation
6 Jan 25	820	1133		In Operation
7 Jan 25	820	1113		In Operation
8 Jan 25	830	1143		In Operation
9 Jan 25	830	1143		In Operation
10 Jan 25	820	1123		In Operation
11 Jan 25	820	1153		In Operation
12 Jan 25	830	1163		In Operation
13 Jan 25	820	1143		In Operation
14 Jan 25	820	1113		In Operation
15 Jan 25	840	1143		In Operation
16 Jan 25	925	1123		In Operation
17 Jan 25	840	1153		In Operation
18 Jan 25	830	1163		In Operation
19 Jan 25	850	1163		In Operation
20 Jan 25	870	1183		In Operation
21 Jan 25	860	1183		In Operation
22 Jan 25	830	1143		In Operation
23 Jan 25	830	1133		In Operation
24 Jan 25	820	1163		In Operation
25 Jan 25	820	1153		In Operation
26 Jan 25	820	1123		In Operation
27 Jan 25	840	1143		In Operation
28 Jan 25	830	1133		In Operation
29 Jan 25	890	1193		In Operation
30 Jan 25	840	1163		In Operation
31 Jan 25	880	1183		In Operation
Average	839	1147	-	
Min	820	1113	-	
Max	925	1193	-	

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
Flare 2 – F602				
1 Jan 25	824	1163	8.0	In Operation
2 Jan 25	820	1163		In Operation
3 Jan 25	830	1173		In Operation
4 Jan 25	820	1133		In Operation
5 Jan 25	830	1153		In Operation
6 Jan 25	870	1183		In Operation
7 Jan 25	830	1173		In Operation
8 Jan 25	860	1183		In Operation
9 Jan 25	870	1193		In Operation
10 Jan 25	870	1173		In Operation
11 Jan 25	870	1193		In Operation
12 Jan 25	880	1193		In Operation
13 Jan 25	850	1183		In Operation
14 Jan 25	820	1163		In Operation
15 Jan 25	820	1133		In Operation
16 Jan 25	850	1163		In Operation
17 Jan 25	840	1163		In Operation
18 Jan 25	820	1153		In Operation
19 Jan 25	820	1163		In Operation
20 Jan 25	820	1143		In Operation
21 Jan 25	820	1153		In Operation
22 Jan 25	850	1183		In Operation
23 Jan 25	840	1173		In Operation
24 Jan 25	820	1173		In Operation
25 Jan 25	840	1153		In Operation
26 Jan 25	830	1173		In Operation
27 Jan 25	820	1163		In Operation
28 Jan 25	830	1143		In Operation
29 Jan 25	840	1153		In Operation
30 Jan 25	820	1142		In Operation
31 Jan 25	850	1173		In Operation
Average	838	1165	-	
Min	820	1133	-	
Max	880	1193	-	

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	0.106 gs^{-1}
CO	1.02 gs^{-1}
SO_2	<0.001 gs^{-1}
Benzene	9.2×10^{-5} gs^{-1}
Vinyl chloride	$<1.02 \times 10^{-5}$ gs^{-1}
Exhaust gas velocity	10.0 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 Jan 25	-	10.0	Under Maintenance
2 Jan 25	-		Under Maintenance
3 Jan 25	-		Under Maintenance
4 Jan 25	-		Under Maintenance
5 Jan 25	-		Under Maintenance
6 Jan 25	-		Under Maintenance
7 Jan 25	-		Under Maintenance
8 Jan 25	-		Under Maintenance
9 Jan 25	-		Under Maintenance
10 Jan 25	-		Under Maintenance
11 Jan 25	-		Under Maintenance
12 Jan 25	-		Under Maintenance
13 Jan 25	-		Under Maintenance
14 Jan 25	872		In Operation
15 Jan 25	891		In Operation
16 Jan 25	868		In Operation
17 Jan 25	868		In Operation
18 Jan 25	866		In Operation
19 Jan 25	862		In Operation
20 Jan 25	870		In Operation
21 Jan 25	871		In Operation
22 Jan 25	854		In Operation
23 Jan 25	879		In Operation
24 Jan 25	878		In Operation
25 Jan 25	879		In Operation
26 Jan 25	879		In Operation
27 Jan 25	875		In Operation
28 Jan 25	877		In Operation
29 Jan 25	878		In Operation
30 Jan 25	877		In Operation
31 Jan 25	880		In Operation
Average	874	-	
Min	854	-	
Max	891	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status
ENGB			
1 Jan 25	870	10.0	In Operation
2 Jan 25	871		In Operation
3 Jan 25	872		In Operation
4 Jan 25	872		In Operation
5 Jan 25	872		In Operation
6 Jan 25	873		In Operation
7 Jan 25	873		In Operation
8 Jan 25	874		In Operation
9 Jan 25	874		In Operation
10 Jan 25	871		In Operation
11 Jan 25	-		Under Maintenance
12 Jan 25	-		Under Maintenance
13 Jan 25	-		Under Maintenance
14 Jan 25	-		Under Maintenance
15 Jan 25	-		Under Maintenance
16 Jan 25	-		Under Maintenance
17 Jan 25	-		Under Maintenance
18 Jan 25	-		Under Maintenance
19 Jan 25	-		Under Maintenance
20 Jan 25	-		Under Maintenance
21 Jan 25	-		Under Maintenance
22 Jan 25	-		Under Maintenance
23 Jan 25	-		Under Maintenance
24 Jan 25	-		Under Maintenance
25 Jan 25	-		Under Maintenance
26 Jan 25	-		Under Maintenance
27 Jan 25	-		Under Maintenance
28 Jan 25	-		Under Maintenance
29 Jan 25	-		Under Maintenance
30 Jan 25	-		Under Maintenance
31 Jan 25	-		Under Maintenance
Average	872	-	
Min	870	-	
Max	874	-	

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.