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	1.12 gs^{-1}
CO	0.02 gs^{-1}
SO_2	<0.01 gs^{-1}
Benzene	$<2.0 \times 10^{-4}$ gs^{-1}
Vinyl chloride	$<1.4 \times 10^{-4}$ gs^{-1}
Exhaust gas velocity	11.0 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 Jul 24	902	1215	
2 Jul 24	903	1218	
3 Jul 24	901	1216	
4 Jul 24	901	1214	
5 Jul 24	895	1216	
6 Jul 24	907	1219	
7 Jul 24	904	1219	
8 Jul 24	898	1218	
9 Jul 24	897	1217	
10 Jul 24	897	1215	
11 Jul 24	Under Maintenance		
12 Jul 24	900	1210	
13 Jul 24	902	1212	
14 Jul 24	900	1209	11.0
15 Jul 24	913	1203	
16 Jul 24	897	1202	
17 Jul 24	898	1208	
18 Jul 24	898	1208	
19 Jul 24	899	1209	
20 Jul 24	900	1210	
21 Jul 24	901	1209	
22 Jul 24	906	1213	
23 Jul 24	898	1211	
24 Jul 24	902	1211	
25 Jul 24	905	1212	
26 Jul 24	900	1210	
27 Jul 24	902	1211	
28 Jul 24	901	1204	
29 Jul 24	Under Maintenance		
30 Jul 24	Under Maintenance		
31 Jul 24	Under Maintenance		
Average	900	1217	-
Min	897	1210	-
Max	907	1225	-

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	0.01 gs^{-1}
CO	0.04 gs^{-1}
SO_2	0.02 gs^{-1}
Benzene	$<6.0 \times 10^{-5}$ gs^{-1}
Vinyl chloride	$<4.8 \times 10^{-5}$ gs^{-1}
Exhaust gas velocity	4.3 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 Jul 24	871	1140	4.3	In Operation
2 Jul 24	903	1166		In Operation
3 Jul 24	893	1146		In Operation
4 Jul 24	868	1135		In Operation
5 Jul 24	904	1168		In Operation
6 Jul 24	874	1134		In Operation
7 Jul 24	865	1136		In Operation
8 Jul 24	879	1126		In Operation
9 Jul 24	856	1126		In Operation
10 Jul 24	862	1120		In Operation
11 Jul 24	885	1155		In Operation
12 Jul 24	916	1171		In Operation
13 Jul 24	871	1143		In Operation
14 Jul 24	881	1141		In Operation
15 Jul 24	907	1161		In Operation
16 Jul 24	836	1105		In Operation
17 Jul 24	876	1147		In Operation
18 Jul 24	867	1132		In Operation
19 Jul 24	900	1164		In Operation
20 Jul 24	846	1107		In Operation
21 Jul 24	901	1160		In Operation
22 Jul 24	864	1133		In Operation
23 Jul 24	890	1151		In Operation
24 Jul 24	880	1129		In Operation
25 Jul 24	831	1099		In Operation
26 Jul 24	855	1122		In Operation
27 Jul 24	869	1133		In Operation
28 Jul 24	865	1135		In Operation
29 Jul 24	871	1133		In Operation
30 Jul 24	889	1155		In Operation
31 Jul 24	886	1151		
Average	876	1140	-	
Min	831	1099	-	
Max	916	1171	-	

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
Flare 2 – F602				
1 Jul 24	920	1173		In Operation
2 Jul 24	931	1202		In Operation
3 Jul 24	920	1180		In Operation
4 Jul 24	920	1187		In Operation
5 Jul 24	887	1141		In Operation
6 Jul 24	859	1125		In Operation
7 Jul 24	886	1154		In Operation
8 Jul 24	885	1157		In Operation
9 Jul 24	910	1178		In Operation
10 Jul 24	913	1164		In Operation
11 Jul 24	922	1189		In Operation
12 Jul 24	913	1181		In Operation
13 Jul 24	925	1194		In Operation
14 Jul 24	919	1180		In Operation
15 Jul 24	865	1128	4.3	In Operation
16 Jul 24	869	1139		In Operation
17 Jul 24	895	1161		In Operation
18 Jul 24	899	1155		In Operation
19 Jul 24	951	1222		In Operation
20 Jul 24	867	1130		In Operation
21 Jul 24	932	1193		In Operation
22 Jul 24	886	1134		In Operation
23 Jul 24	942	1208		In Operation
24 Jul 24	884	1152		In Operation
25 Jul 24	853	1115		In Operation
26 Jul 24	886	1142		In Operation
27 Jul 24	870	1133		In Operation
28 Jul 24	897	1169		In Operation
29 Jul 24	895	1162		In Operation
30 Jul 24	923	1179		In Operation
31 Jul 24	906	1162		
Average	901	1164	-	
Min	853	1115	-	
Max	951	1222	-	

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	0.074 gs^{-1}
CO	0.742 gs^{-1}
SO_2	<0.001 gs^{-1}
Benzene	3.0×10^{-5} gs^{-1}
Vinyl chloride	$<1.03 \times 10^{-5}$ gs^{-1}
Exhaust gas velocity	10.2 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 Jul 24	-	10.2	Under Maintenance
2 Jul 24	850		In Operation
3 Jul 24	-		Under Maintenance
4 Jul 24	850		In Operation
5 Jul 24	850		In Operation
6 Jul 24	841		In Operation
7 Jul 24	-		Under Maintenance
8 Jul 24	891		In Operation
9 Jul 24	-		Under Maintenance
10 Jul 24	846		In Operation
11 Jul 24	-		Under Maintenance
12 Jul 24	846		In Operation
13 Jul 24	850		In Operation
14 Jul 24	-		Under Maintenance
15 Jul 24	848		In Operation
16 Jul 24	-		Under Maintenance
17 Jul 24	848		In Operation
18 Jul 24	848		In Operation
19 Jul 24	847		In Operation
20 Jul 24	846		In Operation
21 Jul 24	-		Under Maintenance
22 Jul 24	885		In Operation
23 Jul 24	855		In Operation
24 Jul 24	853		In Operation
25 Jul 24	884		In Operation
26 Jul 24	848		In Operation
27 Jul 24	848		In Operation
28 Jul 24	-		Under Maintenance
29 Jul 24	-		Under Maintenance
30 Jul 24	-		Under Maintenance
31 Jul 24	-		Under Maintenance
Average	855	-	
Min	841	-	
Max	891	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status
ENGB			
1 Jul 24	873	10.2	In Operation
2 Jul 24	873		In Operation
3 Jul 24	868		In Operation
4 Jul 24	867		In Operation
5 Jul 24	869		In Operation
6 Jul 24	869		In Operation
7 Jul 24	868		In Operation
8 Jul 24	874		In Operation
9 Jul 24	873		In Operation
10 Jul 24	873		In Operation
11 Jul 24	867		In Operation
12 Jul 24	873		In Operation
13 Jul 24	867		In Operation
14 Jul 24	868		In Operation
15 Jul 24	866		In Operation
16 Jul 24	866		In Operation
17 Jul 24	867		In Operation
18 Jul 24	867		In Operation
19 Jul 24	869		In Operation
20 Jul 24	874		In Operation
21 Jul 24	874		In Operation
22 Jul 24	874		In Operation
23 Jul 24	873		In Operation
24 Jul 24	873		In Operation
25 Jul 24	872		In Operation
26 Jul 24	873		In Operation
27 Jul 24	871		In Operation
28 Jul 24	852		In Operation
29 Jul 24	854		In Operation
30 Jul 24	851		In Operation
31 Jul 24	850		
Average	868	-	
Min	850	-	
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.