



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	1.06 gs ⁻¹
CO	0.02 gs ⁻¹
SO ₂	<0.01 gs ⁻¹
Benzene	<2 x 10 ⁻⁴ gs ⁻¹
Vinyl chloride	<1.3 x 10 ⁻⁴ gs ⁻¹
Exhaust gas velocity	9.8 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 Jun 25	896	1200	9.8
2 Jun 25	916	1194	
3 Jun 25	898	1204	
4 Jun 25	901	1188	
5 Jun 25	903	1187	
6 Jun 25	897	1193	
7 Jun 25	898	1196	
8 Jun 25	900	1201	
9 Jun 25	901	1179	
10 Jun 25	903	1203	
11 Jun 25	902	1201	
12 Jun 25	899	1194	
13 Jun 25	896	1191	
14 Jun 25	901	1197	
15 Jun 25	897	1196	
16 Jun 25	896	1189	
17 Jun 25	905	1207	
18 Jun 25	Under Maintenance		
19 Jun 25	905	1167	
20 Jun 25	901	1165	
21 Jun 25	892	1194	
22 Jun 25	901	1202	
23 Jun 25	904	1171	
24 Jun 25	897	1165	
25 Jun 25	896	1163	
26 Jun 25	Under Maintenance		
27 Jun 25	899	1163	
28 Jun 25	906	1164	
29 Jun 25	903	1192	
30 Jun 25	895	1199	
Average	900	1188	-
Min	892	1163	-
Max	916	1207	-

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	<0.01 gs ⁻¹
SO ₂	<0.01 gs ⁻¹
Benzene	4.96 x 10 ⁻⁴ gs ⁻¹
Vinyl chloride	<1.05 x 10 ⁻⁴ gs ⁻¹
Exhaust gas velocity	8.6 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 Jun 25	885	1124	8.6	In Operation
2 Jun 25	883	1112		In Operation
3 Jun 25	877	1108		In Operation
4 Jun 25	875	1108		In Operation
5 Jun 25	899	1141		In Operation
6 Jun 25	906	1147		In Operation
7 Jun 25	892	1139		In Operation
8 Jun 25	899	1128		In Operation
9 Jun 25	897	1125		In Operation
10 Jun 25	901	1143		In Operation
11 Jun 25	918	1145		In Operation
12 Jun 25	905	1145		In Operation
13 Jun 25	877	1125		In Operation
14 Jun 25	903	1147		In Operation
15 Jun 25	878	1112		In Operation
16 Jun 25	879	1127		In Operation
17 Jun 25	920	1158		In Operation
18 Jun 25	890	1117		In Operation
19 Jun 25	872	1112		In Operation
20 Jun 25	893	1139		In Operation
21 Jun 25	900	1136		In Operation
22 Jun 25	898	1145		In Operation
23 Jun 25	903	1130		In Operation
24 Jun 25	900	1126		In Operation
25 Jun 25	906	1145		In Operation
26 Jun 25	877	1125		In Operation
27 Jun 25	904	1147		In Operation
28 Jun 25	880	1125		In Operation
29 Jun 25	908	1156		In Operation
30 Jun 25	870	1105		In Operation
Average	893	1132		
Min	870	1105		
Max	920	1158		

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms ⁻¹) (a)	Operation Status
Flare 2 – F602				
1 Jun 25	900	1132	8.6	In Operation
2 Jun 25	900	1138		In Operation
3 Jun 25	895	1141		In Operation
4 Jun 25	917	1163		In Operation
5 Jun 25	905	1135		In Operation
6 Jun 25	899	1146		In Operation
7 Jun 25	888	1116		In Operation
8 Jun 25	910	1151		In Operation
9 Jun 25	933	1179		In Operation
10 Jun 25	935	1178		In Operation
11 Jun 25	922	1169		In Operation
12 Jun 25	897	1145		In Operation
13 Jun 25	935	1170		In Operation
14 Jun 25	901	1129		In Operation
15 Jun 25	931	1174		In Operation
16 Jun 25	940	1172		In Operation
17 Jun 25	907	1144		In Operation
18 Jun 25	894	1129		In Operation
19 Jun 25	893	1120		In Operation
20 Jun 25	906	1139		In Operation
21 Jun 25	898	1145		In Operation
22 Jun 25	923	1160		In Operation
23 Jun 25	924	1172		In Operation
24 Jun 25	911	1156		In Operation
25 Jun 25	916	1141		In Operation
26 Jun 25	923	1163		In Operation
27 Jun 25	891	1136		In Operation
28 Jun 25	925	1148		In Operation
29 Jun 25	929	1167		In Operation
30 Jun 25	930	1173		In Operation
Average	913	1151	-	
Min	888	1116	-	
Max	940	1179	-	

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	0.032 gs ⁻¹
CO	0.372 gs ⁻¹
SO ₂	<0.001 gs ⁻¹
Benzene	2.9 x 10 ⁻⁵ gs ⁻¹
Vinyl chloride	<7.5 x 10 ⁻⁶ gs ⁻¹
Exhaust gas velocity	6.5 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 Jun 25	-	6.5	Under Maintenance
2 Jun 25	-		Under Maintenance
3 Jun 25	-		Under Maintenance
4 Jun 25	-		Under Maintenance
5 Jun 25	-		Under Maintenance
6 Jun 25	-		Under Maintenance
7 Jun 25	-		Under Maintenance
8 Jun 25	-		Under Maintenance
9 Jun 25	872		In Operation
10 Jun 25	856		In Operation
11 Jun 25	870		In Operation
12 Jun 25	869		In Operation
13 Jun 25	872		In Operation
14 Jun 25	-		Under Maintenance
15 Jun 25	-		Under Maintenance
16 Jun 25	-		Under Maintenance
17 Jun 25	876		In Operation
18 Jun 25	875		In Operation
19 Jun 25	876		In Operation
20 Jun 25	-		Under Maintenance
21 Jun 25	-		Under Maintenance
22 Jun 25	-		Under Maintenance
23 Jun 25	-		Under Maintenance
24 Jun 25	-		Under Maintenance
25 Jun 25	-		Under Maintenance
26 Jun 25	-		Under Maintenance
27 Jun 25	-		Under Maintenance
28 Jun 25	-		Under Maintenance
29 Jun 25	-		Under Maintenance
30 Jun 25	867		In Operation
Average	870	-	
Min	856	-	
Max	876	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms ⁻¹) ^(a)	Operation Status
ENGB			
1 Jun 25	869	6.5	In Operation
2 Jun 25	883		In Operation
3 Jun 25	877		In Operation
4 Jun 25	878		In Operation
5 Jun 25	878		In Operation
6 Jun 25	880		In Operation
7 Jun 25	881		In Operation
8 Jun 25	869		In Operation
9 Jun 25	876		In Operation
10 Jun 25	854		In Operation
11 Jun 25	880		In Operation
12 Jun 25	874		In Operation
13 Jun 25	878		In Operation
14 Jun 25	873		In Operation
15 Jun 25	852		In Operation
16 Jun 25	879		In Operation
17 Jun 25	882		In Operation
18 Jun 25	-		Under Maintenance
19 Jun 25	868		In Operation
20 Jun 25	879		In Operation
21 Jun 25	877		In Operation
22 Jun 25	870		In Operation
23 Jun 25	869		In Operation
24 Jun 25	870		In Operation
25 Jun 25	866		In Operation
26 Jun 25	872		In Operation
27 Jun 25	871		In Operation
28 Jun 25	863		In Operation
29 Jun 25	879		In Operation
30 Jun 25	879		In Operation
Average	873	-	
Min	852	-	
Max	883	-	

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.