



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	1.58 gs ⁻¹
CO	0.02 gs ⁻¹
SO ₂	0.01 gs ⁻¹
Benzene	<1.0 x 10 ⁻⁴ gs ⁻¹
Vinyl chloride	<1.0 x 10 ⁻⁴ gs ⁻¹
Exhaust gas velocity	8.4 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 Apr 24	925	1233	8.4
2 Apr 24	927	1232	
3 Apr 24	923	1231	
4 Apr 24	926	1228	
5 Apr 24	927	1214	
6 Apr 24	924	1234	
7 Apr 24	925	1234	
8 Apr 24	916	1231	
9 Apr 24	902	1217	
10 Apr 24	901	1215	
11 Apr 24	906	1220	
12 Apr 24	901	1224	
13 Apr 24	902	1222	
14 Apr 24	903	1225	
15 Apr 24	901	1225	
16 Apr 24	899	1225	
17 Apr 24	898	1225	
18 Apr 24	900	1221	
19 Apr 24	903	1226	
20 Apr 24	900	1222	
21 Apr 24	900	1222	
22 Apr 24	901	1221	
23 Apr 24	897	1224	
24 Apr 24	897	1225	
25 Apr 24	899	1228	
26 Apr 24	898	1221	
27 Apr 24	899	1226	
28 Apr 24	896	1220	
29 Apr 24	904	1223	
30 Apr 24	901	1232	
Average	907	1225	-
Min	896	1214	-
Max	927	1234	-

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	2.61 gs ⁻¹
SO ₂	0.08 gs ⁻¹
Benzene	6.479 x 10 ⁻³ gs ⁻¹
Vinyl chloride	<1.14 x 10 ⁻⁴ gs ⁻¹
Exhaust gas velocity	9.8 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 Apr 24	821	1082	9.8	In Operation
2 Apr 24	854	1121		In Operation
3 Apr 24	859	1124		In Operation
4 Apr 24	884	1147		In Operation
5 Apr 24	840	1099		In Operation
6 Apr 24	888	1146		In Operation
7 Apr 24	847	1108		In Operation
8 Apr 24	885	1151		In Operation
9 Apr 24	851	1118		In Operation
10 Apr 24	828	1090		In Operation
11 Apr 24	835	1100		In Operation
12 Apr 24	852	1096		In Operation
13 Apr 24	851	1119		In Operation
14 Apr 24	855	1115		In Operation
15 Apr 24	871	1115		In Operation
16 Apr 24	867	1129		In Operation
17 Apr 24	872	1134		In Operation
18 Apr 24	871	1132		In Operation
19 Apr 24	862	1115		In Operation
20 Apr 24	892	1158		In Operation
21 Apr 24	864	1119		In Operation
22 Apr 24	842	1100		In Operation
23 Apr 24	858	1119		In Operation
24 Apr 24	857	1100		In Operation
25 Apr 24	860	1120		In Operation
26 Apr 24	875	1130		In Operation
27 Apr 24	889	1121		In Operation
28 Apr 24	870	1132		In Operation
29 Apr 24	882	1144		In Operation
30 Apr 24	883	1142		In Operation
Average	862	1121	-	
Min	821	1082	-	
Max	892	1158	-	

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms ⁻¹) (a)	Operation Status
Flare 2 – F602				
1 Apr 24	854	1106	9.8	In Operation
2 Apr 24	881	1141		In Operation
3 Apr 24	893	1159		In Operation
4 Apr 24	934	1187		In Operation
5 Apr 24	870	1138		In Operation
6 Apr 24	925	1179		In Operation
7 Apr 24	874	1131		In Operation
8 Apr 24	928	1185		In Operation
9 Apr 24	872	1127		In Operation
10 Apr 24	858	1116		In Operation
11 Apr 24	870	1130		In Operation
12 Apr 24	880	1121		In Operation
13 Apr 24	895	1154		In Operation
14 Apr 24	883	1147		In Operation
15 Apr 24	908	1139		In Operation
16 Apr 24	892	1154		In Operation
17 Apr 24	910	1174		In Operation
18 Apr 24	907	1156		In Operation
19 Apr 24	898	1139		In Operation
20 Apr 24	915	1179		In Operation
21 Apr 24	889	1147		In Operation
22 Apr 24	871	1129		In Operation
23 Apr 24	882	1140		In Operation
24 Apr 24	887	1127		In Operation
25 Apr 24	899	1158		In Operation
26 Apr 24	901	1150		In Operation
27 Apr 24	913	1155		In Operation
28 Apr 24	900	1166		In Operation
29 Apr 24	921	1181		In Operation
30 Apr 24	913	1171		In Operation
Average	894	1150	-	
Min	854	1106	-	
Max	934	1187	-	

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	0.101 gs ⁻¹
CO	1.193 gs ⁻¹
SO ₂	<0.001 gs ⁻¹
Benzene	1.3 x 10 ⁻⁴ gs ⁻¹
Vinyl chloride	<1.07 x 10 ⁻⁵ gs ⁻¹
Exhaust gas velocity	9.7 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 Apr 24	852	9.7	In Operation
2 Apr 24	852		In Operation
3 Apr 24	854		In Operation
4 Apr 24	855		In Operation
5 Apr 24	891		In Operation
6 Apr 24	-		Under Maintenance
7 Apr 24	-		Under Maintenance
8 Apr 24	-		Under Maintenance
9 Apr 24	-		Under Maintenance
10 Apr 24	-		Under Maintenance
11 Apr 24	-		Under Maintenance
12 Apr 24	-		Under Maintenance
13 Apr 24	-		Under Maintenance
14 Apr 24	-		Under Maintenance
15 Apr 24	-		Under Maintenance
16 Apr 24	851		In Operation
17 Apr 24	852		In Operation
18 Apr 24	852		In Operation
19 Apr 24	854		In Operation
20 Apr 24	851		In Operation
21 Apr 24	853		In Operation
22 Apr 24	856		In Operation
23 Apr 24	856		In Operation
24 Apr 24	-		Under Maintenance
25 Apr 24	888		In Operation
26 Apr 24	892		In Operation
27 Apr 24	891		In Operation
28 Apr 24	889		In Operation
29 Apr 24	851		In Operation
30 Apr 24	848		In Operation
Average	863	-	
Min	848	-	
Max	892	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms ⁻¹) ^(a)	Operation Status
ENGB			
1 Apr 24	836	9.7	In Operation
2 Apr 24	836		In Operation
3 Apr 24	838		In Operation
4 Apr 24	839		In Operation
5 Apr 24	874		In Operation
6 Apr 24	877		In Operation
7 Apr 24	878		In Operation
8 Apr 24	876		In Operation
9 Apr 24	872		In Operation
10 Apr 24	875		In Operation
11 Apr 24	876		In Operation
12 Apr 24	877		In Operation
13 Apr 24	879		In Operation
14 Apr 24	881		In Operation
15 Apr 24	880		In Operation
16 Apr 24	846		In Operation
17 Apr 24	848		In Operation
18 Apr 24	847		In Operation
19 Apr 24	849		In Operation
20 Apr 24	847		In Operation
21 Apr 24	847		In Operation
22 Apr 24	849		In Operation
23 Apr 24	879		In Operation
24 Apr 24	880		In Operation
25 Apr 24	881		In Operation
26 Apr 24	-		Under Maintenance
27 Apr 24	-		Under Maintenance
28 Apr 24	-		Under Maintenance
29 Apr 24	840		In Operation
30 Apr 24	837		In Operation
Average	861	-	
Min	836	-	
Max	881	-	

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.