



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	0.57 gs ⁻¹
CO	0.03 gs ⁻¹
SO ₂	<0.01 gs ⁻¹
Benzene	<2.0 x 10 ⁻⁴ gs ⁻¹
Vinyl chloride	<1.3 x 10 ⁻⁴ gs ⁻¹
Non-Methane Organic Carbons	<0.003 gs ⁻¹
Ammonia	0.0315 gs ⁻¹
Exhaust gas velocity	9.4 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 Aug 24	Under Maintenance		9.4
2 Aug 24	Under Maintenance		
3 Aug 24	Under Maintenance		
4 Aug 24	Under Maintenance		
5 Aug 24	Under Maintenance		
6 Aug 24	Under Maintenance		
7 Aug 24	901	1201	
8 Aug 24	898	1204	
9 Aug 24	901	1211	
10 Aug 24	895	1212	
11 Aug 24	899	1214	
12 Aug 24	898	1211	
13 Aug 24	902	1212	
14 Aug 24	899	1205	
15 Aug 24	900	1205	
16 Aug 24	899	1204	
17 Aug 24	902	1203	
18 Aug 24	901	1204	
19 Aug 24	902	1202	
20 Aug 24	897	1200	
21 Aug 24	897	1200	
22 Aug 24	897	1205	
23 Aug 24	896	1206	
24 Aug 24	900	1207	
25 Aug 24	901	1207	
26 Aug 24	902	1207	
27 Aug 24	902	1205	
28 Aug 24	902	1208	
29 Aug 24	904	1206	
30 Aug 24	903	1206	
31 Aug 24	901	1205	
Average	900	1206	-
Min	895	1200	-
Max	904	1214	-

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	0.02 gs ⁻¹
SO ₂	0.01 gs ⁻¹
Benzene	<1.17 x 10 ⁻⁴ gs ⁻¹
Vinyl chloride	<9.4 x 10 ⁻⁵ gs ⁻¹
Non-Methane Organic Carbons	<0.002 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 Aug 24	866	1127	9.0	In Operation
2 Aug 24	840	1096		In Operation
3 Aug 24	872	1125		In Operation
4 Aug 24	881	1137		In Operation
5 Aug 24	866	1128		In Operation
6 Aug 24	885	1148		In Operation
7 Aug 24	874	1129		In Operation
8 Aug 24	867	1122		In Operation
9 Aug 24	862	1116		In Operation
10 Aug 24	889	1147		In Operation
11 Aug 24	862	1122		In Operation
12 Aug 24	863	1118		In Operation
13 Aug 24	869	1129		In Operation
14 Aug 24	851	1104		In Operation
15 Aug 24	889	1147		In Operation
16 Aug 24	888	1149		In Operation
17 Aug 24	856	1109		In Operation
18 Aug 24	866	1124		In Operation
19 Aug 24	888	1146		In Operation
20 Aug 24	845	1108		In Operation
21 Aug 24	846	1105		In Operation
22 Aug 24	840	1096		In Operation
23 Aug 24	848	1107		In Operation
24 Aug 24	861	1124		In Operation
25 Aug 24	850	1106		In Operation
26 Aug 24	847	1101		In Operation
27 Aug 24	868	1126		In Operation
28 Aug 24	878	1141		In Operation
29 Aug 24	844	1100		In Operation
30 Aug 24	890	1151		In Operation
31 Aug 24	884	1142		In Operation
Average	866	1124	-	
Min	840	1096	-	
Max	890	1151	-	

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms ⁻¹) (a)	Operation Status
Flare 2 – F602				
1 Aug 24	893	1151	9.0	In Operation
2 Aug 24	871	1126		In Operation
3 Aug 24	892	1150		In Operation
4 Aug 24	910	1164		In Operation
5 Aug 24	904	1160		In Operation
6 Aug 24	907	1168		In Operation
7 Aug 24	913	1171		In Operation
8 Aug 24	887	1145		In Operation
9 Aug 24	902	1162		In Operation
10 Aug 24	922	1179		In Operation
11 Aug 24	887	1143		In Operation
12 Aug 24	887	1142		In Operation
13 Aug 24	897	1151		In Operation
14 Aug 24	885	1142		In Operation
15 Aug 24	928	1190		In Operation
16 Aug 24	910	1166		In Operation
17 Aug 24	881	1135		In Operation
18 Aug 24	896	1158		In Operation
19 Aug 24	926	1188		In Operation
20 Aug 24	870	1128		In Operation
21 Aug 24	886	1144		In Operation
22 Aug 24	870	1132		In Operation
23 Aug 24	883	1145		In Operation
24 Aug 24	881	1143		In Operation
25 Aug 24	888	1146		In Operation
26 Aug 24	882	1145		In Operation
27 Aug 24	889	1144		In Operation
28 Aug 24	916	1178		In Operation
29 Aug 24	865	1128		In Operation
30 Aug 24	912	1174		In Operation
31 Aug 24	923	1180		In Operation
Average	896	1154	-	
Min	865	1126	-	
Max	928	1190	-	

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	0.018 gs ⁻¹
CO	0.715 gs ⁻¹
SO ₂	0.002 gs ⁻¹
Benzene	3.7 x 10 ⁻⁵ gs ⁻¹
Vinyl chloride	<8.9 x 10 ⁻⁶ gs ⁻¹
Non-Methane Organic Carbons	0.0023 gs ⁻¹
Exhaust gas velocity	8.8 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 Aug 24	-	8.8	Under Maintenance
2 Aug 24	-		Under Maintenance
3 Aug 24	-		Under Maintenance
4 Aug 24	-		Under Maintenance
5 Aug 24	-		Under Maintenance
6 Aug 24	-		Under Maintenance
7 Aug 24	-		Under Maintenance
8 Aug 24	848		In Operation
9 Aug 24	-		Under Maintenance
10 Aug 24	885		In Operation
11 Aug 24	-		Under Maintenance
12 Aug 24	882		In Operation
13 Aug 24	882		In Operation
14 Aug 24	882		In Operation
15 Aug 24	886		In Operation
16 Aug 24	845		In Operation
17 Aug 24	-		Under Maintenance
18 Aug 24	-		Under Maintenance
19 Aug 24	851		In Operation
20 Aug 24	-		Under Maintenance
21 Aug 24	844		In Operation
22 Aug 24	-		Under Maintenance
23 Aug 24	848		In Operation
24 Aug 24	-		Under Maintenance
25 Aug 24	-		Under Maintenance
26 Aug 24	849		In Operation
27 Aug 24	884		In Operation
28 Aug 24	-		Under Maintenance
29 Aug 24	879		In Operation
30 Aug 24	882		In Operation
31 Aug 24	-		Under Maintenance
Average	868	-	
Min	844	-	
Max	886	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms ⁻¹) ^(a)	Operation Status
ENGB			
1 Aug 24	850	8.8	In Operation
2 Aug 24	851		In Operation
3 Aug 24	850		In Operation
4 Aug 24	851		In Operation
5 Aug 24	849		In Operation
6 Aug 24	850		In Operation
7 Aug 24	874		In Operation
8 Aug 24	873		In Operation
9 Aug 24	874		In Operation
10 Aug 24	875		In Operation
11 Aug 24	874		In Operation
12 Aug 24	875		In Operation
13 Aug 24	-		Under Maintenance
14 Aug 24	837		In Operation
15 Aug 24	867		In Operation
16 Aug 24	869		In Operation
17 Aug 24	869		In Operation
18 Aug 24	870		In Operation
19 Aug 24	869		In Operation
20 Aug 24	869		In Operation
21 Aug 24	868		In Operation
22 Aug 24	872		In Operation
23 Aug 24	871		In Operation
24 Aug 24	871		In Operation
25 Aug 24	871		In Operation
26 Aug 24	872		In Operation
27 Aug 24	872		In Operation
28 Aug 24	869		In Operation
29 Aug 24	872		In Operation
30 Aug 24	873		In Operation
31 Aug 24	871		In Operation
Average	866	-	
Min	837	-	
Max	875	-	

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.