



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	0.82 gs ⁻¹
CO	0.02 gs ⁻¹
SO ₂	<0.01 gs ⁻¹
Benzene	8.0 x 10 ⁻⁴ gs ⁻¹
Vinyl chloride	<1.3 x 10 ⁻⁴ gs ⁻¹
Exhaust gas velocity	9.9 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 25	Under Maintenance		9.9
2 Jul 25	899	1188	
3 Jul 25	900	1198	
4 Jul 25	Under Maintenance		
5 Jul 25	899	1203	
6 Jul 25	902	1206	
7 Jul 25	903	1167	
8 Jul 25	Under Maintenance		
9 Jul 25	Under Maintenance		
10 Jul 25	Under Maintenance		
11 Jul 25	Under Maintenance		
12 Jul 25	Under Maintenance		
13 Jul 25	Under Maintenance		
14 Jul 25	Under Maintenance		
15 Jul 25	Under Maintenance		
16 Jul 25	896	1194	
17 Jul 25	902	1203	
18 Jul 25	897	1195	
19 Jul 25	902	1203	
20 Jul 25	904	1203	
21 Jul 25	898	1174	
22 Jul 25	904	1197	
23 Jul 25	900	1207	
24 Jul 25	900	1207	
25 Jul 25	897	1198	
26 Jul 25	902	1201	
27 Jul 25	893	1196	
28 Jul 25	900	1201	
29 Jul 25	899	1185	
30 Jul 25	Under Maintenance		
31 Jul 25	Under Maintenance		
Average	900	1196	-
Min	893	1167	-
Max	904	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	<0.01 gs ⁻¹
CO	0.02 gs ⁻¹
SO ₂	<0.01 gs ⁻¹
Benzene	9.6 x 10 ⁻⁵ gs ⁻¹
Vinyl chloride	<7.3 x 10 ⁻⁵ gs ⁻¹
Exhaust gas velocity	6.1 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 25	865	1106	6.1	In Operation
2 Jul 25	862	1107		In Operation
3 Jul 25	867	1105		In Operation
4 Jul 25	878	1122		In Operation
5 Jul 25	881	1121		In Operation
6 Jul 25	877	1117		In Operation
7 Jul 25	878	1131		In Operation
8 Jul 25	894	1132		In Operation
9 Jul 25	891	1129		In Operation
10 Jul 25	889	1139		In Operation
11 Jul 25	860	1110		In Operation
12 Jul 25	879	1130		In Operation
13 Jul 25	867	1114		In Operation
14 Jul 25	861	1113		In Operation
15 Jul 25	895	1143		In Operation
16 Jul 25	900	1149		In Operation
17 Jul 25	892	1139		In Operation
18 Jul 25	883	1125		In Operation
19 Jul 25	868	1119		In Operation
20 Jul 25	871	1110		In Operation
21 Jul 25	887	1135		In Operation
22 Jul 25	864	1106		In Operation
23 Jul 25	884	1137		In Operation
24 Jul 25	892	1137		In Operation
25 Jul 25	872	1110		In Operation
26 Jul 25	899	1141		In Operation
27 Jul 25	874	1127		In Operation
28 Jul 25	897	1148		In Operation
29 Jul 25	892	1145		In Operation
30 Jul 25	884	1130		In Operation
31 Jul 25	884	1133		In Operation
Average	880	1126		
Min	860	1105		
Max	900	1149		

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms ⁻¹) (a)	Operation Status
Flare 2 – F602				
1 Jul 25	892	1135	6.1	In Operation
2 Jul 25	894	1135		In Operation
3 Jul 25	884	1121		In Operation
4 Jul 25	892	1133		In Operation
5 Jul 25	897	1130		In Operation
6 Jul 25	898	1138		In Operation
7 Jul 25	906	1154		In Operation
8 Jul 25	891	1127		In Operation
9 Jul 25	895	1143		In Operation
10 Jul 25	915	1160		In Operation
11 Jul 25	880	1115		In Operation
12 Jul 25	907	1153		In Operation
13 Jul 25	919	1152		In Operation
14 Jul 25	905	1151		In Operation
15 Jul 25	886	1130		In Operation
16 Jul 25	917	1160		In Operation
17 Jul 25	893	1129		In Operation
18 Jul 25	898	1138		In Operation
19 Jul 25	920	1158		In Operation
20 Jul 25	908	1155		In Operation
21 Jul 25	907	1150		In Operation
22 Jul 25	900	1148		In Operation
23 Jul 25	916	1152		In Operation
24 Jul 25	903	1138		In Operation
25 Jul 25	909	1154		In Operation
26 Jul 25	920	1157		In Operation
27 Jul 25	906	1148		In Operation
28 Jul 25	887	1121		In Operation
29 Jul 25	899	1145		In Operation
30 Jul 25	884	1123		In Operation
31 Jul 25	889	1132		In Operation
Average	901	1142		In Operation
Min	880	1115	-	
Max	920	1160	-	

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	0.092 gs ⁻¹
CO	0.630 gs ⁻¹
SO ₂	<0.002 gs ⁻¹
Benzene	7.1 x 10 ⁻⁵ gs ⁻¹
Vinyl chloride	<1.45 x 10 ⁻⁵ gs ⁻¹
Exhaust gas velocity	10.8 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 Jul 25	-	10.8	Under Maintenance
2 Jul 25	891		In Operation
3 Jul 25	-		Under Maintenance
4 Jul 25	-		Under Maintenance
5 Jul 25	-		Under Maintenance
6 Jul 25	-		Under Maintenance
7 Jul 25	-		Under Maintenance
8 Jul 25	-		Under Maintenance
9 Jul 25	-		Under Maintenance
10 Jul 25	-		Under Maintenance
11 Jul 25	-		Under Maintenance
12 Jul 25	-		Under Maintenance
13 Jul 25	-		Under Maintenance
14 Jul 25	-		Under Maintenance
15 Jul 25	888		In Operation
16 Jul 25	-		Under Maintenance
17 Jul 25	855		In Operation
18 Jul 25	849		In Operation
19 Jul 25	866		In Operation
20 Jul 25	-		Under Maintenance
21 Jul 25	850		In Operation
22 Jul 25	-		Under Maintenance
23 Jul 25	-		Under Maintenance
24 Jul 25	846		In Operation
25 Jul 25	837		In Operation
26 Jul 25	852		In Operation
27 Jul 25	851		In Operation
28 Jul 25	850		In Operation
29 Jul 25	876		In Operation
30 Jul 25	876		In Operation
31 Jul 25	877		In Operation
Average	862	-	
Min	837	-	
Max	891	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms ⁻¹) ^(a)	Operation Status
ENGB			
1 Jul 25	880	10.8	In Operation
2 Jul 25	881		In Operation
3 Jul 25	880		In Operation
4 Jul 25	880		In Operation
5 Jul 25	878		In Operation
6 Jul 25	867		In Operation
7 Jul 25	879		In Operation
8 Jul 25	875		In Operation
9 Jul 25	865		In Operation
10 Jul 25	861		In Operation
11 Jul 25	866		In Operation
12 Jul 25	871		In Operation
13 Jul 25	873		In Operation
14 Jul 25	871		In Operation
15 Jul 25	873		In Operation
16 Jul 25	881		In Operation
17 Jul 25	851		In Operation
18 Jul 25	846		In Operation
19 Jul 25	879		In Operation
20 Jul 25	879		In Operation
21 Jul 25	848		In Operation
22 Jul 25	881		In Operation
23 Jul 25	878		In Operation
24 Jul 25	844		In Operation
25 Jul 25	836		In Operation
26 Jul 25	849		In Operation
27 Jul 25	847		In Operation
28 Jul 25	847		In Operation
29 Jul 25	855		In Operation
30 Jul 25	-		Under Maintenance
31 Jul 25	-		Under Maintenance
Average	866	-	
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.