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	<0.01 gs^{-1}
SO_2	0.03 gs^{-1}
Benzene	<1.0 x 10^{-4} gs^{-1}
Vinyl chloride	<1.0 x 10^{-4} gs^{-1}
Exhaust gas velocity	7.9 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 Dec 22	922	1177	
2 Dec 22	915	1145	
3 Dec 22	916	1168	
4 Dec 22	933	1188	
5 Dec 22	918	1163	
6 Dec 22	927	1172	
7 Dec 22	922	1176	
8 Dec 22	926	1180	
9 Dec 22	920	1179	
10 Dec 22	924	1211	
11 Dec 22	922	1187	
12 Dec 22	925	1176	
13 Dec 22	926	1177	
14 Dec 22	925	1167	
15 Dec 22	919	1178	7.9
16 Dec 22	934	1219	
17 Dec 22	922	1161	
18 Dec 22	927	1174	
19 Dec 22	926	1194	
20 Dec 22	924	1197	
21 Dec 22	923	1198	
22 Dec 22	921	1204	
23 Dec 22	927	1218	
24 Dec 22	924	1216	
25 Dec 22	927	1222	
26 Dec 22	926	1283	
27 Dec 22	909	1225	
28 Dec 22	919	1231	
29 Dec 22	923	1233	
30 Dec 22	921	1228	
31 Dec 22	928	1236	
Average	923	1196	-
Min	909	1145	-
Max	934	1283	-

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 (Flare 1 – F601)
NO_2	0.03 gs^{-1}
CO	0.783 gs^{-1}
SO_2	0.16 gs^{-1}
Benzene	6.61 x 10^{-4} gs^{-1}
Vinyl chloride	<1.35 x 10^{-4} gs^{-1}
Exhaust gas velocity	12.8 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 Dec 22	890	1089		In Operation
2 Dec 22	860	1093		In Operation
3 Dec 22	870	1063		In Operation
4 Dec 22	910	1033		In Operation
5 Dec 22	890	1073		In Operation
6 Dec 22	890	1103		In Operation
7 Dec 22	850	1063		In Operation
8 Dec 22	840	1053		In Operation
9 Dec 22	860	1083		In Operation
10 Dec 22	890	1093		In Operation
11 Dec 22	870	1093		In Operation
12 Dec 22	880	1043		In Operation
13 Dec 22	890	1083		In Operation
14 Dec 22	870	1033		In Operation
15 Dec 22	860	1093	12.8	In Operation
16 Dec 22	860	1063		In Operation
17 Dec 22	870	1063		In Operation
18 Dec 22	-	-		Under Maintenance
19 Dec 22	870	1063		In Operation
20 Dec 22	860	1083		In Operation
21 Dec 22	870	1043		In Operation
22 Dec 22	880	1113		In Operation
23 Dec 22	860	1033		In Operation
24 Dec 22	880	1043		In Operation
25 Dec 22	880	1033		In Operation
26 Dec 22	870	1113		In Operation
27 Dec 22	900	1153		In Operation
28 Dec 22	890	1133		In Operation
29 Dec 22	880	1053		In Operation
30 Dec 22	870	1083		In Operation
31 Dec 22	860	1113		In Operation
Average	854	1075	-	
Min	850	1033	-	
Max	910	1153	-	
Flare 2 – F602				
1 Dec 22	830	1043		In Operation
2 Dec 22	880	1103		In Operation
3 Dec 22	850	1073		In Operation
4 Dec 22	850	1093		In Operation
5 Dec 22	880	1103		In Operation
6 Dec 22	860	1093		In Operation
7 Dec 22	850	1093		In Operation

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) (a)	Operation Status
8 Dec 22	870	1113		In Operation
9 Dec 22	840	1073		In Operation
10 Dec 22	870	1113		In Operation
11 Dec 22	870	1123		In Operation
12 Dec 22	870	1113		In Operation
13 Dec 22	860	1093		In Operation
14 Dec 22	860	1073		In Operation
15 Dec 22	860	1073	12.8	In Operation
16 Dec 22	840	1053		In Operation
17 Dec 22	-	-		Under Maintenance
18 Dec 22	890	1073		In Operation
19 Dec 22	850	1033		In Operation
20 Dec 22	-	-		Under Maintenance
21 Dec 22	-	-		Under Maintenance
22 Dec 22	-	-		Under Maintenance
23 Dec 22	-	-		Under Maintenance
24 Dec 22	-	-		Under Maintenance
25 Dec 22	-	-		Under Maintenance
26 Dec 22	-	-		Under Maintenance
27 Dec 22	-	-		Under Maintenance
28 Dec 22	-	-		Under Maintenance
29 Dec 22	-	-		Under Maintenance
30 Dec 22	-	-		Under Maintenance
31 Dec 22	-	-		Under Maintenance
Average	860	1085	-	
Min	830	1033	-	
Max	890	1123	-	

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	-
CO	-
SO_2	-
Benzene	-
Vinyl chloride	-
Non-Methane Organic Carbons	-
Exhaust gas velocity	-

(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 Dec 22	-		Under Maintenance
2 Dec 22	-		Under Maintenance
3 Dec 22	-		Under Maintenance
4 Dec 22	-		Under Maintenance
5 Dec 22	-		Under Maintenance
6 Dec 22	-		Under Maintenance
7 Dec 22	-		Under Maintenance
8 Dec 22	-		Under Maintenance
9 Dec 22	-		Under Maintenance
10 Dec 22	-		Under Maintenance
11 Dec 22	-		Under Maintenance
12 Dec 22	-		Under Maintenance
13 Dec 22	-		Under Maintenance
14 Dec 22	-		Under Maintenance
15 Dec 22	-		Under Maintenance
16 Dec 22	-	-	Under Maintenance
17 Dec 22	-		Under Maintenance
18 Dec 22	-		Under Maintenance
19 Dec 22	-		Under Maintenance
20 Dec 22	-		Under Maintenance
21 Dec 22	-		Under Maintenance
22 Dec 22	-		Under Maintenance
23 Dec 22	-		Under Maintenance
24 Dec 22	-		Under Maintenance
25 Dec 22	-		Under Maintenance
26 Dec 22	-		Under Maintenance
27 Dec 22	-		Under Maintenance
28 Dec 22	-		Under Maintenance
29 Dec 22	-		Under Maintenance
30 Dec 22	-		Under Maintenance
31 Dec 22	-		Under Maintenance
Average	-	-	
Min	-	-	
Max	-	-	
ENGB			
1 Dec 22	-		Under Maintenance
2 Dec 22	-		Under Maintenance
3 Dec 22	-		Under Maintenance
4 Dec 22	-		Under Maintenance
5 Dec 22	-		Under Maintenance

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status
6 Dec 22	-		Under Maintenance
7 Dec 22	-		Under Maintenance
8 Dec 22	-		Under Maintenance
9 Dec 22	-		Under Maintenance
10 Dec 22	-		Under Maintenance
11 Dec 22	-		Under Maintenance
12 Dec 22	-	-	Under Maintenance
13 Dec 22	-		Under Maintenance
14 Dec 22	-		Under Maintenance
15 Dec 22	-		Under Maintenance
16 Dec 22	-		Under Maintenance
17 Dec 22	-		Under Maintenance
18 Dec 22	-		Under Maintenance
19 Dec 22	-		Under Maintenance
20 Dec 22	-		Under Maintenance
21 Dec 22	-		Under Maintenance
22 Dec 22	-		Under Maintenance
23 Dec 22	-		Under Maintenance
24 Dec 22	-		Under Maintenance
25 Dec 22	-		Under Maintenance
26 Dec 22	-		Under Maintenance
27 Dec 22	-		Under Maintenance
28 Dec 22	-		Under Maintenance
29 Dec 22	-		Under test run
30 Dec 22	-		Under test run
31 Dec 22	-		Under test run
Average	-	-	
Min	-	-	
Max	-	-	

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.