

SLR reference:	416.00798.00038	Odour monitoring conducted as outlined in BS EN:13725:2022
Project Manager:	RJ	
Monitoring Undertaken by:	RJ & RG	
DATE OF SAMPLING	27/04/2022	
SITE:	Rhayader WTS, Wales	

Source 1	
Food Waste - 2 days aged	
GEOMEAN ODOUR CONCENTRATION (ouEm-3)	8037
DUCT TEMPERATURE (°C)	15.2
ACTUAL DUCT VOLUME FLOW RATE (m³/s)	
STANDARD CONDITIONS VOLUME FLOW RATE (273K) (Nm³/s)	
STANDARDISED VOLUME FLOW RATE for Odour calc (293K) (Nm³/s)	
MEASURED AIRSTREAM RELATIVE HUMIDITY (%)	
LIQUID MONITORING ORP RESULT (mV)	
LIQUID MONITORING pH RESULT	
LIQUID MONITORING TEMPERATURE RESULT (°C)	
ODOUR EMISSION RATE FOR:	
DUCT SOURCE (ouEs⁻¹)	
HOOD SOURCE (ouEm⁻²s⁻¹)	
SHEET AREA SOURCE (ouEm⁻²s⁻¹)	
OUTWARD FLOW (BIOFILTER) (ouEm⁻²s⁻¹)	
OUTWARD FLOW (BIOFILTER) (ouEs⁻¹)	

SAMPLE I.D	220427ARG	220427BRG	220427CRG			
FINAL ODOUR CONC. (ouE/m³)	8647	7807	7690			

Odour monitoring undertaken by:

SLR

Monitoring commissioned by:

Powys

**ADDITIONAL REMARKS:**  
Ambient headspace monitoring.  
Duct temperature recorded is the ambient temperature within the skip. Ambient temp: 12.6°C.  
2-day old domestic waste, within sealed skip (roll on/off with hinged lid).  
Skips measure 4.9m long x 2.4m wide x 1.2m high

Source 2	
Food Waste - 1 day aged	
GEOMEAN ODOUR CONCENTRATION (ouEm⁻³)	2680
DUCT TEMPERATURE (°C)	15.6
ACTUAL DUCT VOLUME FLOW RATE (m³/s)	
STANDARD CONDITIONS VOLUME FLOW RATE (273K) (Nm³/s)	
STANDARDISED VOLUME FLOW RATE for Odour calc (293K) (Nm³/s)	
MEASURED AIRSTREAM RELATIVE HUMIDITY (%)	
LIQUID MONITORING ORP RESULT (mV)	
LIQUID MONITORING pH RESULT	
LIQUID MONITORING TEMPERATURE RESULT (°C)	
ODOUR EMISSION RATE FOR:	
DUCT SOURCE (ouEs⁻¹)	
HOOD SOURCE (ouEm⁻²s⁻¹)	
SHEET AREA SOURCE (ouEm⁻²s⁻¹)	
OUTWARD FLOW (BIOFILTER) (ouEm⁻²s⁻¹)	
OUTWARD FLOW (BIOFILTER) (ouEs⁻¹)	

SAMPLE I.D	220427DRG	220427ERG	220427FRG			
FINAL ODOUR CONC. (ouE/m³)	2752	2456	2848			

Odour monitoring undertaken by:

SLR

Monitoring commissioned by:

Powys

**ADDITIONAL REMARKS:**  
Ambient headspace monitoring.  
Duct temperature recorded is the ambient temperature within the skip. Ambient temp: 12.6°C.  
1-day old domestic waste, within sealed skip (roll on/off with hinged lid).  
Skips measure 4.9m long x 2.4m wide x 1.2m high

**Source 3**

Fresh* residual waste - location 1	
GEOMEAN ODOUR CONCENTRATION (ou <sub>e</sub> m <sup>-3</sup> )	181
DUCT TEMPERATURE (°C)	
ACTUAL DUCT VOLUME FLOW RATE (m <sup>3</sup> /s)	
STANDARD CONDITIONS VOLUME FLOW RATE (273K) (Nm <sup>3</sup> /s)	
STANDARDISED VOLUME FLOW RATE for Odour calc (293K) (Nm <sup>3</sup> /s)	
MEASURED AIRSTREAM RELATIVE HUMIDITY (%)	
LIQUID MONITORING ORP RESULT (mV)	
LIQUID MONITORING pH RESULT	
LIQUID MONITORING TEMPERATURE RESULT (°C)	
ODOUR EMISSION RATE FOR:	
DUCT SOURCE (ou <sub>e</sub> s <sup>-1</sup> )	
HOOD SOURCE (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	1.4
SHEET AREA SOURCE (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	
OUTWARD FLOW (BIOFILTER) (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	
OUTWARD FLOW (BIOFILTER) (ou <sub>e</sub> s <sup>-1</sup> )	

SAMPLE I.D	220427GRG	220427HRG	220427IRG			
FINAL ODOUR CONC. (ou <sub>e</sub> /m <sup>3</sup> )	253	95	248			

Odour monitoring undertaken by:



Monitoring commissioned by:

**ADDITIONAL REMARKS:**

Lindvall hood utilised - area source monitored.  
Ambient temp: 12.6°C.  
Waste tipped from RCV at 12:15, monitoring commenced at 12:45.

**Source 4**

Fresh* residual waste - location 2	
GEOMEAN ODOUR CONCENTRATION (ou <sub>e</sub> m <sup>-3</sup> )	353
DUCT TEMPERATURE (°C)	
ACTUAL DUCT VOLUME FLOW RATE (m <sup>3</sup> /s)	
STANDARD CONDITIONS VOLUME FLOW RATE (273K) (Nm <sup>3</sup> /s)	
STANDARDISED VOLUME FLOW RATE for Odour calc (293K) (Nm <sup>3</sup> /s)	
MEASURED AIRSTREAM RELATIVE HUMIDITY (%)	
LIQUID MONITORING ORP RESULT (mV)	
LIQUID MONITORING pH RESULT	
LIQUID MONITORING TEMPERATURE RESULT (°C)	
ODOUR EMISSION RATE FOR:	
DUCT SOURCE (ou <sub>e</sub> s <sup>-1</sup> )	
HOOD SOURCE (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	2.6
SHEET AREA SOURCE (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	
OUTWARD FLOW (BIOFILTER) (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	
OUTWARD FLOW (BIOFILTER) (ou <sub>e</sub> s <sup>-1</sup> )	

SAMPLE I.D	220427JRG	220427KRG	220427LRG			
FINAL ODOUR CONC. (ou <sub>e</sub> /m <sup>3</sup> )	634	295	236			

Odour monitoring undertaken by:



Monitoring commissioned by:

**ADDITIONAL REMARKS:**

Lindvall hood utilised - area source monitored.  
Ambient temp: 12.6°C.  
Waste tipped from RCV at 12:15 (same load as monitored for location 1 above, but different hood placement), monitoring commenced at 13:10.

**Source 5**

<b>Fresh' food waste - location 1</b>	
GEOMEAN ODOUR CONCENTRATION (ou <sub>e</sub> m <sup>-3</sup> )	311
DUCT TEMPERATURE (°C)	
ACTUAL DUCT VOLUME FLOW RATE (m <sup>3</sup> /s)	
STANDARD CONDITIONS VOLUME FLOW RATE (273K) (Nm <sup>3</sup> /s)	
STANDARDISED VOLUME FLOW RATE for Odour calc (293K) (Nm <sup>3</sup> /s)	
MEASURED AIRSTREAM RELATIVE HUMIDITY (%)	
LIQUID MONITORING ORP RESULT (mV)	
LIQUID MONITORING pH RESULT	
LIQUID MONITORING TEMPERATURE RESULT (°C)	
ODOUR EMISSION RATE FOR:	
DUCT SOURCE (ou <sub>e</sub> s <sup>-1</sup> )	
HOOD SOURCE (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	2.5
SHEET AREA SOURCE (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	
OUTWARD FLOW (BIOFILTER) (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	
OUTWARD FLOW (BIOFILTER) (ou <sub>e</sub> s <sup>-1</sup> )	

SAMPLE I.D	220427MRG	220427NRG	220427ORG			
FINAL ODOUR CONC. (ou <sub>e</sub> /m <sup>3</sup> )	305	349	282			

Odour monitoring undertaken by:



Monitoring commissioned by:

**ADDITIONAL REMARKS:**

Lindvall hood utilised - area source monitored.

Ambient temp: 12.6°C.

Waste tipped from RCV at 12:50, monitoring commenced at 13:40.

**Source 6**

<b>Fresh' food waste - location 2</b>	
GEOMEAN ODOUR CONCENTRATION (ou <sub>e</sub> m <sup>-3</sup> )	271
DUCT TEMPERATURE (°C)	
ACTUAL DUCT VOLUME FLOW RATE (m <sup>3</sup> /s)	
STANDARD CONDITIONS VOLUME FLOW RATE (273K) (Nm <sup>3</sup> /s)	
STANDARDISED VOLUME FLOW RATE for Odour calc (293K) (Nm <sup>3</sup> /s)	
MEASURED AIRSTREAM RELATIVE HUMIDITY (%)	
LIQUID MONITORING ORP RESULT (mV)	
LIQUID MONITORING pH RESULT	
LIQUID MONITORING TEMPERATURE RESULT (°C)	
ODOUR EMISSION RATE FOR:	
DUCT SOURCE (ou <sub>e</sub> s <sup>-1</sup> )	
HOOD SOURCE (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	2.0
SHEET AREA SOURCE (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	
OUTWARD FLOW (BIOFILTER) (ou <sub>e</sub> m <sup>-2</sup> s <sup>-1</sup> )	
OUTWARD FLOW (BIOFILTER) (ou <sub>e</sub> s <sup>-1</sup> )	

SAMPLE I.D	220427PRG	220427QRG	220427RRG			
FINAL ODOUR CONC. (ou <sub>e</sub> /m <sup>3</sup> )	271	255	287			

Odour monitoring undertaken by:



Monitoring commissioned by:

**ADDITIONAL REMARKS:**

Lindvall hood utilised - area source monitored.

Ambient temp: 12.6°C.

Waste tipped from RCV at 13:40 (different load as monitored for location 1 above), monitoring commenced at 14:04.