



Figure 25A-1. Organic Concentration Measurement System.

METHOD 25B—DETERMINATION OF TOTAL GASEOUS ORGANIC CONCENTRATION USING A NON-DISPERSIVE INFRARED ANALYZER

**Note:** This method does not include all of the specifications (e.g., equipment and supplies) and procedures (e.g., sampling) essential to its performance. Some material is incorporated by reference from other methods

in this part. Therefore, to obtain reliable results, persons using this method should have a thorough knowledge of at least the following additional test methods: Method 1, Method 6C, and Method 25A.

1.0 Scope and Application

1.1 Analytes.

Analyte	CAS No.	Sensitivity
Total Organic Compounds .....	N/A	< 2% of span.

1.2 **Applicability.** This method is applicable for the determination of total gaseous organic concentration of vapors consisting primarily of alkanes. Other organic materials may be measured using the general procedure in this method, the appropriate calibration gas, and an analyzer set to the appropriate absorption band.

1.3 **Data Quality Objectives.** Adherence to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

#### 2.0 Summary of Method

A gas sample is extracted from the source through a heated sample line, if necessary, and glass fiber filter to a nondispersive infrared analyzer (NDIR). Results are reported as volume concentration equivalents of the calibration gas or as carbon equivalents.

#### 3.0 Definitions

Same as Method 25A, Section 3.0.

#### 4.0 Interferences [Reserved]

#### 5.0 Safety

5.1 **Disclaimer.** This method may involve hazardous materials, operations, and equipment. This test method may not address all of the safety problems associated with its use. It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to performing this test method. The analyzer users manual should be consulted for specific precautions to be taken with regard to the analytical procedure.

5.2 **Explosive Atmosphere.** This method is often applied in highly explosive areas. Caution and care should be exercised in choice of equipment and installation.

#### 6.0 Equipment and Supplies

Same as Method 25A, Section 6.0, with the exception of the following:

6.1 **Organic Concentration Analyzer.** A nondispersive infrared analyzer designed to measure alkane organics and capable of meeting or exceeding the specifications in this method.

#### 7.0 Reagents and Standards

Same as Method 25A, Section 7.1. No fuel gas is required for an NDIR.

#### 8.0 Sample Collection, Preservation, Storage, and Transport

Same as Method 25A, Section 8.0.

#### 9.0 Quality Control

Same as Method 25A, Section 9.0.

#### 10.0 Calibration and Standardization

Same as Method 25A, Section 10.0.

#### 11.0 Analytical Procedure

The sample collection and analysis are concurrent for this method (see Section 8.0).

#### 12.0 Calculations and Data Analysis

Same as Method 25A, Section 12.0.

#### 13.0 Method Performance [Reserved]

#### 14.0 Pollution Prevention [Reserved]

#### 15.0 Waste Management [Reserved]

#### 16.0 References

Same as Method 25A, Section 16.0.

#### 17.0 Tables, Diagrams, Flowcharts, and Validation Data [Reserved]

### METHOD 25C—DETERMINATION OF NON-METHANE ORGANIC COMPOUNDS (NMOC) IN LANDFILL GASES

**NOTE:** This method does not include all of the specifications (*e.g.*, equipment and supplies) and procedures (*e.g.*, sampling and analytical) essential to its performance. Some material is incorporated by reference from other methods in this part. Therefore, to obtain reliable results, persons using this method should also have a thorough knowledge of EPA Method 25.

#### 1.0 Scope and Application

##### 1.1 Analytes.

Analyte	CAS No.
Nonmethane organic compounds (NMOC).	No CAS number assigned.

1.2 **Applicability.** This method is applicable to the sampling and measurement of NMOC as carbon in landfill gases (LFG).

1.3 **Data Quality Objectives.** Adherence to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

#### 2.0 Summary of Method

2.1 A sample probe that has been perforated at one end is driven or augured to a depth of 0.9 m (3 ft) below the bottom of the landfill cover. A sample of the landfill gas is extracted with an evacuated cylinder. The NMOC content of the gas is determined by