UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Solid Waste Working Group
c/o Matthew W. Morrison
Pillsbury Winthrop Shaw Pittman LLP
1200 Seventeenth Street NW
Washington, DC 20036-3006

10/06/2021

Dear Mr. Morrison:

I am writing in response to the letter from the National Waste & Recycling Association, the Solid Waste Association of North America, Waste Management, and Republic Services (collectively, the Solid Waste Working Group or SWWG) requesting approval of an alternative test method. The original letter was submitted on July 24, 2020, and the final version was submitted on August 30, 2021. In that letter, the SWWG, on behalf of their member organizations, seek the use of an alternative test method in lieu of a requirement found in 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills Residual Risk and Technology Review (Subpart AAAA).

Subpart AAAA, §63.1961(a)(5) states that when a facility seeks to demonstrate compliance with the operational standard for temperature found in §63.1958(c)(1), the facility must initiate enhanced monitoring at each well with a landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). That enhanced monitoring includes, among other things, measuring the carbon monoxide concentrations using Method 10 (40 CFR 60, Appendix A), as specified by §63.1961(a)(5)(vi). In lieu of Method 10, you propose the use of the alternative method included as an attachment to this letter. The original alternative method was developed by the SWWG, and the work group members conferred with EPA staff to develop the attached final version. You state that if the candidate method is approved, it would not impact the stringency of the final rule, nor impede EPA's policy of ensuring compliance with environmental and safety standards at municipal solid waste landfills.

We have reviewed your original submittal and the attached final version of the method in detail and based on that review, we are approving your alternative test method request to allow the use of the test method included as an attachment to this letter in lieu of Method 10, as specified by §63.1961(a)(5)(vi) of Subpart AAAA. We agree that the alternative method will be adequate for measurement of carbon monoxide from the wellheads and will not impact the stringency of Subpart AAAA. We also find it reasonable that this alternative test method approval be broadly applicable to facilities subject to Subpart AAAA including the requirements of §63.1961(a)(5)(vi), which specify the use of Method 10 and, for that reason, we will post this letter as ALT-143 on our website at *http://www3.epa.gov/ttn/emc/approalt.html* for use by facilities subject to those requirements.

This alternative test method approval is applicable to demonstrate compliance with the requirements of §63.1961(a)(5)(vi) of Subpart AAAA. This approval does not address the use of this alternative method for performance testing required under State Implementation Plans (SIP) or state/local/tribal regulations. Application of this alternative test method for such regulations is subject to the approval of the administrative authority for the applicable regulation(s).

If you should have any questions or require further information regarding this approval, please call Kim Garnett of my staff at 919-541-1158 or email her at *garnett.kim@epa.gov*.

Sincerely,

Steffan M Johnson

Johnson, Steffan

Digitally signed by Johnson, Steffan
Date: 2021.10.06 08:08:40 -04'00'

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ALTERNATIVE METHOD FOR THE FIELD DETERMINATION OF CARBON MONOXIDE CONCENTRATION IN LANDFILL GAS WELLHEADS UNDER 40 CFR 63, SUBPART AAAA.

1.0 Scope and Application

1.1 Analytes. What does this method determine?

This method measures the concentration of carbon monoxide (CO) in landfill gas.

Analyte	CAS No.	Sensitivity
CO	630-08-0	<2% of Instrument Span

1.2 Applicability. When is this method required?

This method may only be used to demonstrate the carbon monoxide concentration as specified in 40 C.F.R. § 63.1961(a)(5)(vi) for each wellhead subject to enhanced monitoring as required by 40 C.F.R. § 63.1961(a)(5).

1.3 Data Quality Objectives.

The objective is to ensure reasonable accuracy of the data to effectuate the appropriate monitoring frequency following the requirements of 40 C.F.R. Part 63, Subpart AAAA, and to establish the veracity of a measurement above 100 ppmv. To meet this objective, the use of certified standard gases and industry standard measurement system performance tests are required.

2.0 Summary of Method

In this method, a landfill gas sample is collected from each wellhead subject to enhanced monitoring through existing monitoring ports and analyzed using an instrument that continuously measures the concentration of CO. The performance requirements of this method must be met to validate the data.

3.0 Definitions

3.1 *Instrument Error* means the absolute difference between the certified concentration of a standard gas and the measured concentration of the same gas when it is introduced into the gas analyzer divided by the Calibration Span.

3.2 *Certified Standard Gas* means a gas mixture containing CO at a known concentration produced and certified to have an analytical uncertainty of +/- 2% verified by direct comparison to calibration standards traceable to National Institute of Standards and Technology (N.I.S.T) weights and/or N.I.S.T Gas Mixture reference materials.

3.2.1 *Low-Level Gas* means a certified standard gas with a concentration that is at least 20 percent less than the 100 ppmv target threshold.

3.2.1.1 This gas may contain zero CO (less than 1 ppmv).

3.2.1.2 Ambient air may be used for this purpose if it is not near a known source of CO e.g., within 50 feet of a combustion device or operating vehicle.

3.2.2 *High-Level Gas* means a certified standard gas with a concentration that is between 0 to 95% percent greater than the 1,000 ppmv target threshold.

3.3 *Instrument Range* means the upper limit of the gas analyzer's operation or function. Set by the manufacturer based on the CO electrochemical cell sensor specification or limit.

3.4 *Calibration Span* means the upper limit of the analyzer's calibration that is set by the choice of high-level calibration gas.

3.5 *Data Recorder* means a record of the concentration reported by the gas analyzer. The record can be stored digitally or in written format but must contain, at a minimum, the date and time of sampling, a unique wellhead ID and the concentration. A corresponding calibration record must include the date and time of the most recent passing calibration validation test. The calibration record can be a separate data file or paper record.

3.6 *Drift* means the difference between instrument error checks at both a low-level (less than 100 ppmv) and high-level gas concentration (greater than 1,000 ppmv) conducted at the start and at the end of each test day for a facility.

3.6.1 A Drift check is dependent on sampling conditions but no less than the minimum monitoring frequency established for sampling the wellheads at a site following the requirements of 40 C.F.R. Part 63, Subpart AAAA.

3.6.2 A Drift check is necessary any time the gas analyzer does not return to zero ± 20 ppmv within 5 times the response time after landfill gas is removed from it. Note: this requires that, first, an Instrument Error Test be conducted and then the drift check is performed by calculating the drift using Eq. 3 from section 12.4.

3.6.3 A Drift check is necessary any time any filters or other such devices on the sampling apparatus indicate that they require replacement or were exposed to abnormal conditions (e.g. excessive liquids) during sampling.

3.7 *Gas Analyzer* means the equipment that senses the CO in landfill gas and generates an output proportional to its concentration.

3.8 *Response Time* means the time it takes the gas analyzer to respond to a change in gas concentration after it is introduced to the instrument.

3.9 *Sampling Apparatus* means the wellhead connection fitting, sample hoses, filters, or any similar device between the gas analyzer and the landfill gas wellhead.

4.0 Interferences

Portable landfill gas analyzers that use CO electrochemical cells can experience cross interference with hydrogen (H_2) and hydrogen sulfide (H_2S), both of which can be present in raw landfill gas. These types of analyzers must be equipped with a H_2 compensated CO sensor that measures and reduces H_2 interference to less than 2.5% of the standard gas concentration applied by design and/or mathematically up to a minimum of 10,000 ppmv H_2 concentration in landfill gas.

In addition, electrochemical type analyzers must be equipped with physical filtration (internal and/or external) and/or an internal carbon filter to remove H_2S. The removal of H_2S less than 1,000 ppmv does not have to be quantified because the volume removed is less than the measurement uncertainty. Trace amounts of ammonia (NH_3) may be present in landfill gas; however, it does not affect the electrochemical CO cell at the levels typically observed in landfill gas. Finally, the concentrations of methane (CH_4), carbon dioxide (CO_2), oxygen (O_2), and nitrogen (N_2) typically found in landfill gas do not affect the CO cell to any significant amount.

Electrochemical type analyzers may also be equipped with an H_2 sensor that acts as an indicator of H_2 concentration intensity providing an alarm or other similar notification that concentrations have exceeded or are approaching the design limits of the instrument compensation.

To minimize the potential for damage of the sensors, liquid must be prevented from entering the analyzer by a water trap or similar filter. These devices do not remove CO_2. Therefore, no compensation is required.

5.0 Safety

It is essential that all personnel conducting the monitoring described in this method follow established company and/or facility Health and Safety Plans (HASPs) while at a landfill and wear Personal Protection Equipment (PPE) as appropriate including items necessary to address potential hazards at a landfill and surface temperatures above 145 °F.

Landfill gas is combustible and could form an explosive mixture under the right conditions e.g., accumulating in well vaults. Landfill gas is also considered a simple asphyxiant that could displace ambient air under those same conditions and may contain trace compounds that if inhaled could cause harm. In addition, this method requires working on a landfill that could have moving equipment and vehicles in proximity to the wellheads.

Other precautions for conducting the monitoring described in this method include no smoking, and other safety recommendations published in the gas analyzer user's manual and other similar resources. Occupational Safety and Health Administration (OSHA) regulations concerning cylinder and noxious gases may also apply.

6.0 Equipment and Supplies

The field sampling approach described below may be used as an alternative to the enhanced monitoring required by 40 C.F.R. Part 63.1961(a)(5)

6.1 Field Sampling

Use of any equipment and supplies in the sampling system (Figure 1) meeting the following specifications is acceptable:

6.1.1 *Sample Apparatus Hose Fitting*. The sample hose fitting must connect to the wellhead sample fitting firmly and without leaks. Gaskets, O-rings, or other such seals must be replaced if damaged prior to collecting the sample.

6.1.2 *Sample Apparatus Hose*. The sample hose from the wellhead to the gas analyzer must be made of silicone, PVC or other similar material that does not absorb or otherwise alter the sample gas.

6.1.3 *Breakthrough Indicator Carbon Filter or Equivalent Device*. The external breakthrough indicator and carbon filter or equivalent device that removes H_2S and indicates breakthrough by changing color[1] must be replaced when the media has changed color and regularly based on manufacturer specifications or if conditions exceed the interference limits noted by the manufacturer. This is optional for instruments that are not impacted by interference of H_2S.

6.1.4 *Liquid Filter or Equivalent Device*. The liquid filter must be replaced regularly based on manufacturer specifications and if abnormal conditions are observed (i.e., excessive moisture). This is intended to prevent liquid from damaging the analyzer but is not required to dry the gas or otherwise remove water vapor.

6.1.5 *Gas Analyzer*. An instrument that measures CO in the gas stream and meets the applicable specifications in Section 13.0.

6.1.5.1 The gas analyzer must be equipped with a vacuum pump suitable to pull against the wellhead vacuum and to transport gas from the sample point to the analyzer.

6.1.5.2 Internal H_2S filters or other internal systems to address interference are considered part of the gas analyzer and do not require field replacement.

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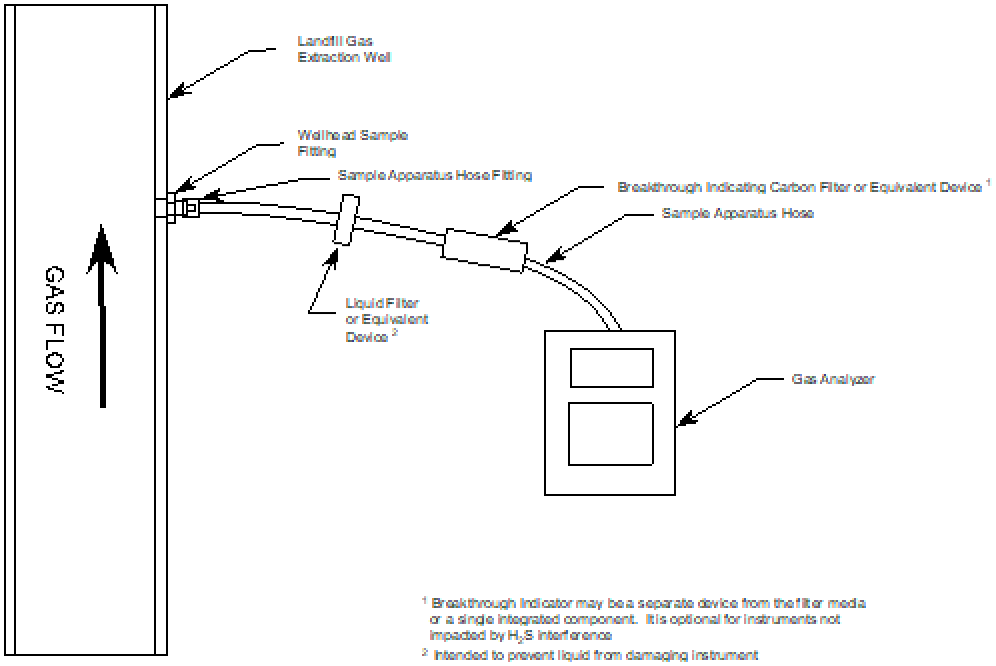
[1] *Indicator may be a separate device from the filter media or a single integrated component.*

Figure 1 - Sampling System



[1] Breakthrough Indicator may be a separate device from the filter media or a single integrated component. It is optional for instruments not impacted by H_2S interference

[2] Intended to prevent liquid from damaging instrument

7.0 Reagents and Standards

7.1 Certified Standard Gas. What instrument calibration verification gases do I need?

Use a gas mixture containing CO at a known concentration produced and certified to have an analytical uncertainty of +/- 2% verified by direct comparison to calibration standards traceable to N.I.S.T weights and/or N.I.S.T Gas Mixture reference materials.

7.1.1 *Low-Level Gas* means a certified standard gas with a concentration that is at least 20 percent less than the 100 ppmv target threshold. This gas may contain zero CO (less than 1 ppmv). Ambient air may be used for this purpose if it is not near a known source of CO e.g., within 50 feet of a combustion device or operating vehicle.

7.1.2 *High-Level Gas* means a certified standard gas with a concentration that is between 0 to 95% greater than the 1,000 ppmv target threshold.

7.2 Interference Check.

Instrument preventative maintenance, performance inspection and testing must be carried out and documented annually, at a minimum. It should be completed by the manufacturer, or a manufacturer designated facility.

For Manufacturers:

The manufacturer must undertake reasonable verification that each make/model CO cell that is used in the instrument's construction conforms with the supplier's specifications. Each individual cell need not be tested in this process.

At a minimum, the manufacturer must:

7.2.1 Select one cell from a batch of cells of the same model and make obtained from a CO cell supplier.

7.2.1.1 Introduce a standard to the selected CO cell at a low, mid, and high concentration within the cell span established by the CO cell supplier.

7.2.1.2 Determine the best fit line between the standard gases. The line must have an R-squared greater than or equal to 0.975 to be considered linear.

7.2.2 Verify the linearity of a specific model/make of CO cell any time a new model/make CO cell is obtained from a supplier, or the supplier has changed the specifications of the CO cell.

Manufacturer Documentation

The instrument manufacturer must provide or make available information as follows[2]:

7.2.3 A statement pertaining to the instrument range based on the CO cell supplier's specification.

7.2.4 A statement that the linearity of the CO cell used in the instrument has been verified.

7.2.5 A statement of the interference compensation limit.

7.2.6 A statement certifying that annual instrument performance checks have been conducted and the instrument passes those checks.

8.0 Sample Collection, Preservation and Storage

8.1 Sampling Site and Sampling Points.

This alternative method may be used to sample at landfill gas well sampling ports installed into the well casing or wellhead such that gas can be freely extracted when a sample hose is attached. The fitting must ensure a secure connection of the sampling

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[2] Note that this documentation is intended for the instrument user and is not a required submittal to EPA or an enforceable condition.

hose.

8.2 *Initial Measurement System Verification Tests. What initial performance criteria must my analyzer meet before I begin collecting samples?*

Each day, before measuring a field sample, perform the following procedures and document on a data sheet like Table 3, Section 17.0:

8.2.1 *Charge instrument battery, if necessary.*

8.2.2 *Check that the instrument has a valid annual maintenance check certification, if expired, conduct maintenance as per manufacturer procedures.*

8.2.3 *Check if the H_2S scrubbing agent indicates a color change, replace if necessary.*

8.2.4 *Check that the particulate filter is in place and shows no liquid, replace if necessary.*

8.2.5 *Check the calibration gas certificate(s).*

Obtain a certificate or other similar proof from the gas manufacturer documenting the quality of the gas(es) containing CO including a statement that a gas has an analytical uncertainty of at least +/- 2%. Confirm that the manufacturer documentation is current, and the gas has not expired. This documentation must be available on-site for inspection.

8.2.6 *Sampling Apparatus Leak Check. How do I prepare my sampling system?*

Assemble and inspect hoses and fittings of the sampling system replacing gaskets, O-rings, or similar seals, as necessary. Replace filters or other similar devices in-line between the wellhead and analyzer in accordance with manufacturer recommendations or if conditions indicate that they should be replaced.

1) Apply a calibration gas that contains no oxygen to the meter through the sample apparatus.
2) Close the valve on the calibration gas while the pump is activated.
3) Verify that the pump in the meter fails on a low flow alarm (or over pressure) before any oxygen is detected in the sample stream.
4) Any value greater than 0.5% O_2 indicates a leak. Check all fittings and replace, as necessary. Repeat procedure.

8.3 *Weekly System Verification Tests. What weekly performance criteria must my analyzer meet before I begin collecting samples?*

8.3.1 *Sensor Stability Check*

8.3.2.1 Introduce the high-level standard gas upstream of all sample conditioning components, as close to the probe tip as possible. Continue to observe the gas concentration reading for up to 300 seconds. Record the value at 240 seconds and again at 300 seconds.

8.3.2.2 The difference between these two values must be less than +/- 2.5%.

8.3.2.3 Use Equation 1 in Section 12.2 to determine sensor stability.

8.4 Daily System Verification Tests. What daily performance criteria must my analyzer meet before I begin collecting samples?

8.4.1 Measurement System Response Time.

Observe the time required to achieve the required percentage of the applied standard concentration for both the low-level and high-level standard gases. The longer interval is the response time.

8.4.1.1 The response time test must be conducted at least daily at the beginning of a sampling event performed as required by 40 C.F.R. Part 63, Subpart AAAA or if components on the sampling apparatus have changed e.g. liquid or carbon filter or similar device in-line between the wellhead and analyzer replacement. You may determine the measurement system response time during the initial instrument error test.

8.4.1.2 Introduce the high-level standard gas upstream of all sample conditioning components. Record the time it takes for the measured concentration to increase to a value that is at least 95 percent or within 0.5 ppmv (whichever is less restrictive) of the applied standard concentration. Continue to apply the gas standard until it has reached a final, stable value.

8.4.1.3 Next, introduce the low-level gas and record the time required for the concentration response to decrease to a value that is 5.0 percent or 0.5 ppmv (whichever is less restrictive) of the high-range gas concentration.

8.4.1.4 From this data, calculate the measurement system response time.

8.4.2 Instrument Error Test. How do I confirm my analyzer calibration is correct?

8.4.2.1 As also described in Section 10, after assembling and preparing the sampling system and analyzer, you must conduct a 2-point instrument error test before you begin collecting data and again after any failed drift test. Introduce the low-level and high-level standard gases sequentially. The standard gas must be introduced upstream of all sample conditioning components. You must also conduct a final 2-point instrument error test at the end of each day of testing.

8.4.2.2 Record the analyzer's response to each standard gas on a form like Table 1. An electronic equivalent method of recording the data tabulated in Table 1 is acceptable. For each standard gas, calculate the instrument error using Equation 2 in Section 12.3. The instrument error specification in Section 13.1 must be met for the low-level and high-level standard gases. If the instrument error specification is not met, take corrective action, and repeat the test until an acceptable 2-point instrument error test is achieved.

8.4.3 Drift Assessment Initial Record.

Record the analyzer's response to each standard gas on a form like Table 2 as the initial value. An electronic equivalent method of recording the data tabulated in Table 2 is acceptable.

8.5 Sample Collection.

8.5.1 Connect the sample apparatus hose to the wellhead or well casing sample port fitting.

8.5.2 Purge the system for at least 1.5 times the response time before starting the measurement.

8.5.3 If the measurement is not stable[3], repeat the purge procedure. Continue the purge and sample process until a stable measurement is obtained. If a stable measurement cannot be obtained after 3 times, inspect the sample hose and wellhead, replace any components as necessary and try the procedure again.

8.5.4 After a successful purge, begin sampling. Maintain pump operation and after 1-minute store a record of the concentration. Continue with sampling for another minute. Repeat until a total of 5 records have been stored.

8.5.5 Average the 5 stored records to establish the concentration for the well.

8.5.6 If the sensor response exceeded 80% of instrument range, conduct an Instrument Error Check and determine drift using the procedures in Section 8.5.

8.5.7 If the well results are the last test for the day, conduct an Instrument Error Check and determine drift using the procedures in Section 8.5.

8.6 Instrument Error Test. How do I confirm that the samples I collect are valid?

Each day, or more frequently based on analyzer performance, conduct an instrument error check as described in section 8.4.2. Note that for all instrument error checks, the

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[3] A fluctuation greater than 50 ppm over a period of 30 seconds.

low-level gas may be injected first and the high-level standard gas last, or vice-versa. A failed instrument error test will invalidate all samples collected since the last passed test.

8.6.1 If the instrument error check did not pass, then the sample is invalid. Diagnose and fix the problem and conduct and pass another instrument error test (Section 8.4.2) before repeating the sampling event. Record the results.

8.6.2 Calculate the low-level and high-level standard gas drift, using Equation 3 in Section 12.4. A failed drift test will invalidate all samples collected since the last passed test.

8.6.3 Record the analyzer's response to each standard gas on a form like Table 2 as the initial value. An electronic equivalent method of recording the data tabulated in Table 2 is acceptable.

9.0 Quality Control

What quality control measures must I take?

The following table is a summary of the quality assurance and quality control measures and the associated frequency and acceptance criteria. All the QC data, along with the sample data, must be documented.

QA/QC specification	Acceptance criteria	Checking frequency
Analyzer resolution or sensitivity	<=2% of Calibration Span	Manufacturer design.
Standard gas validity	Valid documentation required with an uncertainty ≤2.0% of tag value	
Data resolution	≤0.5% of full-scale range	Manufacturer design
Instrument error	Within ±5.0 percent of the calibration span of the analyzer for the low-level, and high-level standard gases	At least at the beginning and end of each day of sampling performed as required under 40 C.F.R. Part 63, Subpart AAAA and after a failed drift test
System response time	Determines minimum sampling time per point	At the beginning of each day of sampling performed as required 40 C.F.R. Part 63, Subpart AAAA or after replacing any component on the sampling apparatus

QA/QC specification	Acceptance criteria	Checking frequency
Drift	≤3.0% of calibration span for low-level and high-level gases	At least at the end of each day of sampling performed as required 40 C.F.R. Part 63, Subpart AAAA or if conditions warrant
Purge time	≥1.5 times system response time	Each well

10.0 Calibration and Standardization

How do I confirm my analyzer calibration is correct?

After assembling and preparing the sampling system and analyzer, conduct a 2-point instrument error test before taking the first sample and again after any failed drift test as follows.

10.1 Introduce the low-level and high-level certified standard gases sequentially, until a stable reading is achieved.

10.2 Record the analyzer's response to each certified standard gas on a form like Table -1.

10.2.1 An electronic record providing information like Table-1 is an acceptable alternative.

10.3 For each certified standard gas, calculate the instrument error using Equation-2 in Section 12. The instrument error specification in Section 13 must be met for the low-level and high-level gases. If the instrument error specification is not met, take corrective action, and repeat the test until an acceptable 2-point verification of calibration is achieved.

10.4 Note the manufacturer's certified accuracy of the standard gases used in the testing as part of the test report.

10.4.1 The analytical uncertainty must be +/- 2% or less and be verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

11.0 Analytical Procedures

Because sample collection and analysis are performed together (*See* Section 8), additional discussion of the analytical procedure is not necessary.

12.0 Calculations and Data Analysis

Follow the procedures for calculations and data analysis listed in this section.

12.1 Nomenclature.

The terms used in the equations are defined as follows:

IE = Instrument error, percent of calibration span.
C_{240} = Concentration at 240 seconds.
C_{300} = Concentration at 300 seconds.
C_{Dir} = Measured concentration of a standard gas (low or high), ppmv.
C_V = Manufacturer certified concentration of a standard gas (low or high), ppmv.
CS = Calibration span, ppmv.
D = Drift assessment, percent of calibration span.
IE_i = Initial Instrument Error, percent of calibration span.
IE_{final} = Final Instrument Error, percent of calibration span.

12.2 Sensor Stability.

$$(C_{240} - C_{300}) / C_{240} \times 100 = \text{Sensor Stability} \qquad \text{Eq. 1}$$

12.3 Instrument Error.

$$IE = (C_{Dir} - C_V)/CS \times 100 \qquad \text{Eq. 2}$$

12.4 Drift Assessment.

$$D = \left| IE_{final} - IE_i \right| \qquad \text{Eq. 3}$$

13.0 Method Performance

The specifications for instrument error and drift are as follows:

13.1 *Instrument Error (IE).* This specification is applicable to the analyzer instrument error testdescribed in Section 8.2.3. At each standard gas level (low and high) the instrument error must be within ±5.0 percent of the calibration span.

13.2 *Drift (D).* At no less than the minimum monitoring frequency established for the wellheads at a site following the requirements of 40 C.F.R. Part 63, Subpart AAAA, the low-leveland high-level standard gas drift must be less than or equal to 3.0 percent of the calibration span.

14.0 Pollution Prevention

Reserved

15.0 Waste Management

Reserved

16.0 References

1) National Institute of Standards and Technology (N.I.S.T.), U.S. Department of Commerce

17.0 Tables, Diagrams, Flowcharts and Validation Data

Table – 1 Instrument Error Test

Source Identification: ________________________
Test personnel: ______________________________
Date: _________________
Time: ________________
Analyzer Model No.: ___________________________
Serial No.: ___________________________________
Calibration Span (CS): ___________________

	Manufacturer Certified Cylinder Value (A) Units _______	Analyzer Response (B) Units________	Absolute Difference (B-A) Units _________	Instrument Error (Percent of Calibration Span) (B-A)/CS x 100 %
Low Level Standard				
High Level Standard				

Table – 2 Instrument Drift Test

Source Identification: ________________________
Test personnel: ______________________________
Analyzer Model No.: ___________________
Serial No.: ____________________________

	Instrument Error Initial (A) Units ________	Instrument Error Final (B) Units _________	Difference (B-A) Units _______
Date:			
Time			
Low Level Standard			
High Level Standard			

Table – 3 Initial Measurement System Verification Tests

Source Identification: ___________________________ Analyzer Model No.: ________________
Test personnel: _________________________________ Serial No.: ___________________
Date: _______________________
Time: _______________________

	Yes ☑	*No* ☑
Instrument battery charged		
Valid annual maintenance check certification		
H_2S scrubbing agent does not indicate a color change		
Particulate filter is in place and shows no liquid		
Calibration gas certificate is valid		
Sampling Apparatus Leak Check Performed		

------ End of Method -----