



## FORM 1: Linearity and Interference Tests Recordkeeping Form For Portable Analyzers

DATE: \_\_\_\_\_ TIME (start/stop): \_\_\_\_\_ / \_\_\_\_\_ NAME: \_\_\_\_\_

ANALYZER (Make/Model): \_\_\_\_\_ Analyzer S/N: \_\_\_\_\_

OPERATOR: \_\_\_\_\_

Dates of Last Cell Replacements: \_\_\_\_\_ CO: \_\_\_\_\_ NO: \_\_\_\_\_ NO<sub>2</sub>: \_\_\_\_\_ O<sub>2</sub>: \_\_\_\_\_

**Linearity Check**

Date of Last Linearity Check: \_\_\_\_\_

Requirements:

- \* Linearity less than or equal to 3% of the mid span gas concentration
- \* Linearity check must be conducted within 12 months of the test date and when an electrochemical cell is replaced.

**Interference Check**

Date of Last Interference Check: \_\_\_\_\_

Requirements:

- \* Interference response less than or equal to 5% of span gas concentrations
- \* Interference check must be conducted within 12 months of the test date and when an electrochemical cell is replaced.

Date of Linearity Check:

Constituent	CO (ppm)	NO (ppm)	NO <sub>2</sub> (ppm)	O <sub>2</sub> (%)
Zero Gas				
Mid Span Gas				
High Span Gas				
Reading, Zero				
Reading, Mid				
Reading, High				
Linearity, E <sub>LIN</sub> , %				
Slope =				
Calculated Mid				

Date of CO Interference Check:

Constituent	CO (ppm)	NO (ppm)	NO <sub>2</sub> (ppm)
Interferent Span Gas Value, C <sub>NOG</sub> & C <sub>NO2G</sub>			
CO Response to NO, R <sub>CO-NO</sub>			
CO Response to NO <sub>2</sub> , R <sub>CO-NO2</sub>			
CO Interference, I <sub>CO</sub> %			

$$I_{CO} = [(R_{CO-NO} / C_{NOG}) + (R_{CO-NO2} / C_{NO2G})] \times 100$$

where: I<sub>CO</sub> = CO interference response (percent)

R<sub>CO-NO</sub> = CO response to NO span gas (ppm CO)

C<sub>NOG</sub> = concentration of NO span gas (ppm NO)

R<sub>CO-NO2</sub> = CO response to NO<sub>2</sub> span gas (ppm CO)

C<sub>NO2G</sub> = concentration of NO<sub>2</sub> span gas (ppm NO<sub>2</sub>)

Calculations for Linearity are described in Section 3.6 of the Periodic Monitoring Protocol

**CERTIFICATION:** Based on the information and belief formed after reasonable inquiry, I certify that the statements and information contained in this report are true, accurate, and complete.

\_\_\_\_\_

Test Conducted By

\_\_\_\_\_

Signature

\_\_\_\_\_

Title

\_\_\_\_\_

Date