

August 20 2008

Mr. Michael Stevens  
 University of Vermont  
 Facilities Design and Construction  
 March Hall, Suite 10  
 31 Spear Street  
 Burlington, VT 05405

RE: HF & HCL Meter Response Testing/Calibration  
 UVM Delehanty Hall • Burlington, Vermont  
 ATC Project No. 63-12025-0323

Dear Mr. Stevens:

This certificate documents the calibration of the HF and HCL meters available for use in the response testing/calibrations conducted by ATC Associates Inc. on June 10, 2008, July 11, 2008, and July 17, 2008.

The HF and HCL meters are fixed mount units attached to the back wall of the hood. The HF and HCL meters are fixed mount units attached to the back wall of the hood. The meters are set up in front of the hood in the presence of a face of the hood (approximately 18 inches above the hood opening).

All response testing/calibration was performed in general accordance with the manufacturer's published specifications and worked in cooperation with UVM personnel.

**JUNE 19, 2008 CALIBRATIONS:**

Enmet Model ENG-97D with a Model GS-24-DF Gas Sampler – Equipped with **HCL Detector**  
 Serial # 2004

Zero Calibration Gas (type)	Reading Prior to Zero	Reading After Zero	Span Gas Concentration	Reading after Span Gas Administration	Span Calibration Performed?
Ambient Air	0.2 ppm	0.0 ppm	10 ppm	N/A	No

Calibration Performed by: Dagan Allard

problem with the intake tubing and corrected it prior to the July 11, 2008 calibration.

Enmet Model ENG-97D with a Model GS-24-DF Gas Sampler – Equipped with HF Detector  
Serial # 2005

Zero Calibration	Reading Prior to	Reading After Zero	Span Gas Concentration	Reading after Span Gas Administration	Span Calibration Performed?
Gas (type)	Zero	Zero			
Ambient Air	0.0 ppm	0.0 ppm	Approx. 4.7 ppm @ 68°F / >30% RH (profusion tubes)	1.5 ppm	No (response only)

Calibration Performed by: Dagan Allardvce

Notes: Slow detector response to HF, recommended longer profusion tube stabilization period.

**JULY 11, 2008 CALIBRATIONS:**

Enmet Model ENG-97D with a Model GS-24-DF Gas Sampler – Equipped with HCl Detector  
Serial # 2004

Zero Calibration	Reading Prior to	Reading After Zero	Span Gas Concentration	Reading after Span Gas Administration	Span Calibration Performed?
Gas (type)	Zero	Zero			
				No	

increasing concentrations up to 12.1 ppm. Response was acceptable, no calibration re-set required (per the manufacturer's verbal instructions).

Enmet Model ENG-97D with a Model GS-24-DF Gas Sampler – Equipped with HF Detector  
Serial # 2005

Zero Calibration	Reading Prior to	Reading After Zero	Span Gas Concentration	Reading after Span Gas Administration	Span Calibration Performed?
Gas (type)	Zero	Zero			
			Approx. 4.7 ppm (profusion tubes)	only	No

Mr. Michael Stevens  
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Enmet Model ENG-97D with a Model GS-24 DE Gas Sampler Equipped with HCl Detector

Serial # 2004

Zero Calibration Gas (type)	Reading Prior to Zero	Reading After Zero	Span Gas Concentration	Reading after Span Gas Administration	Span Calibration Performed?
Ambient Air	0.0 ppm	0.0 ppm	10.0 ppm	10.0 ppm	NO
			17.2 ppm	7.2 ppm (only)	(only)

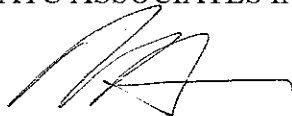
Note: Instrument achieved percent response up to 10 ppm, instrument then displayed a "green" response (see the manufacturer's manual instructions). The manufacturer did not provide a procedure for diagnosing the instrument's "green" above the calibration gas concentration.

Zero Calibration Gas (type)	Reading Prior to Zero	Reading After Zero	Span Gas Concentration	Reading after Span Gas Administration	Span Calibration Performed?
Ambient Air	0.0 ppm	0.0 ppm	Approx. 4.7 ppm @ 68°F / >30% RH (profusion tubes)	5.1 ppm	No (response only)

Thank you for retaining ATC for your air quality monitoring needs. If you have any questions, please feel free to contact us at 817-267-1980.

Sincerely,

ATC ASSOCIATES INC.



Dagan B. Allardyce  
 Project Manager



Thomas J. Broido  
 Branch Manager