

August 20 2008

Mr. Michael Stevens
University of Vermont
Facilities Design and Construction
Marsh 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 correspondence documents the Hydrogen chloride (HCL) and Hydrogen fluoride (HF) meter response testing/calibrations conducted by ATC Associates Inc. on June 19, 2008, July 11, 2008, and August 14, 2008.

The HF and HCL meters are fixed mount units attached to the north wall in Room 305. These meters are set up to monitor the potential presence of target airborne contaminants escaping the hood located in the north east corner of the room (instrument intake tubes are located directly above the hood opening).

All response testing/calibration was performed in general accordance with the manufacturer's published specifications and verbal conversations with Enmet representatives.

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 Allardyce

Notes: Instrument would not respond to the calibration gas. UVM personnel later discovered a 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 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)	1.5 ppm	No (response only)

Calibration Performed by: Dagan Allardyce

Notes: Slow detector response to HF, recommended longer profusion tube stabilization prior to next calibration. No span calibration performed per the manufacturer's verbal instructions.

JULY 11, 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	-0.1 ppm	0.0 ppm	10 ppm	10.0 ppm – 12.1 ppm	No (response only)

Calibration Performed by: Dagan Allardyce

Notes: Instrument achieved prompt response up to 10 ppm, instrument then displayed slowly 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 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)	3.4 ppm	No (response only)

Calibration Performed by: Dagan Allardyce

Notes: Response was slow, UVM returned the sensor to Enmet. The sensor was reinstalled prior to the August 14, 2008 calibration.

AUGUST 14, 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	10.0 ppm - 17.2 ppm	No (response only)

Calibration Performed by: Dagan Allardyce

Notes: Instrument achieved prompt response up to 10 ppm, instrument then displayed slowly increasing concentrations up to 17.2 ppm. Response was acceptable, no calibration re-set required (per the manufacturer's verbal instructions). The manufacturer did recommend eventually diagnosing the instrument's "creep" above the calibration gas concentration.

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

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)

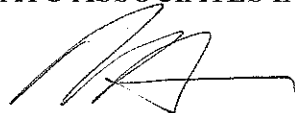
Calibration Performed by: Dagan Allardyce

Notes: Response was acceptable, no calibration re-set required (per the manufacturer's verbal instructions).

Thank you for retaining ATC for your environmental consulting needs. If you have any questions feel free to contact us at 802-862-1980.

Sincerely,

ATC ASSOCIATES INC.



Dagan B. Allardyce
Project Manager



Thomas J. Broido
Branch Manager

Cc: Paul Bierman - UVM Geology Department (PDF via email)