



Testing, Testing, Testing . . .

As a result of the previous GARNews® discussion about EPA and ASTM test methods, some GARN® supporters are wondering about the status of GARN WHS testing. Therefore, this month's GARNews provides a sneak preview of the *updated and upgraded* GARN test lab that is dedicated to that specific function.

During the past 4 months an expanded test lab that incorporates a dilution tunnel compliant with ASTM Standard E 2515-09 was internally funded by DECTRA CORPORATION. During this period, the following occurred:

- The dilution tunnel hood, duct supports and fan system was designed. Computer analysis confirmed proper flow and static pressure drop.
- Duct and fan components were purchased and the system erected. The fan is roof mounted so does not show in the pictures below.
- Test instrumentation was specified and ordered. All key instrumentation is certified compliant with NIST (National Institute of Standards and Technology).
- Instrumentation delivery took 4 to 6 weeks, after which, assembly of the various test components began. Assembly is ongoing.
- It is anticipated the lab will be operational by August 15th at which time more in-depth and accurate testing will begin.
- All testing and particulate analysis will conform to ASTM E 2618-09; specifically the appendix for wood fired hydronic appliances that utilize thermal storage. Cordwood, *not crib wood*, will be used in all tests; thus fully conforming to the ASTM standard

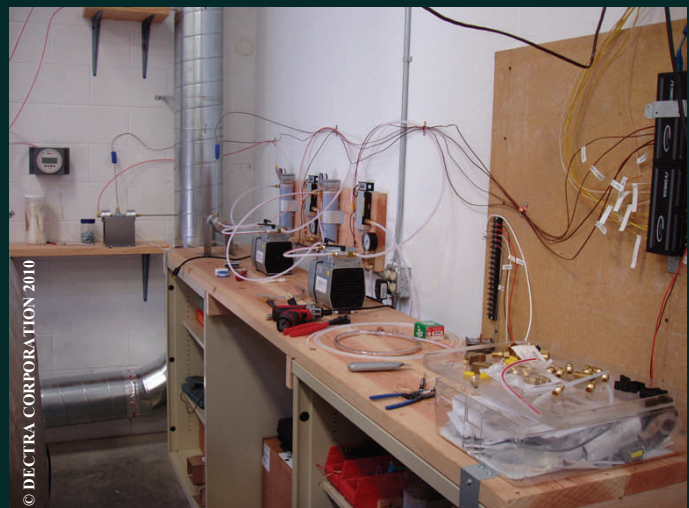
In addition to emission performance to the current EPA Standard, the lab will be used to further increase efficiency and decrease emissions of new (and perhaps existing WHS units). The pictures following will give some insight into the expense and complexity of setting up a dilution tunnel test facility. Our commitment to our customers and loyal supporters is to continue to offer the cleanest and most efficient hydronic wood heating equipment available.



This is an overall view of the hood and duct of the dilution tunnel. The exhaust fan is located on the roof.



A closer view of the dilution tunnel hood and duct.



The vacuum pumps, dryer columns, filter housings, gages, thermocouples, flow meters, etc. required for testing. Additional thermocouple wiring and vacuum line work remain. The existing computer system is being utilized for data collection and analysis with this new equipment. The test setup should be complete and debugged shortly.