

## CAT Aeration Test Task Force meeting Oct 16, 2014

### Proveout Matrix Plan

**Attendees:** Names Highlighted in **Yellow** attended the meeting

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## **Enclosure Readiness**

### **Martin:**

Enclosure is done.

Ran few tests with 35°C target. Only hit this at coldest days with very controller use. Heat radiation from the oil kept the enclosure hot hence the enclosure temperature may not be feasibly controlled to 35 °C in the summer.

Transducer can tolerate 45 °C.

**Data:** Inlet was 90.2 °C and outlet was 89.7 °C; so delta is ~0.45 °C

**Action:** insulate the TC to the TC wire (similar to LZ setup).

### **Greg:**

Enclosure is done.

Trying to control 35 °C (1800 rpm at test condition). Oil flow heated the box and over shot the 35 °C. Max temp was 42-43 °C on normal operation.

Moved the thermocouple (TC) away from insulation.

Transmitter is mounted outside the box.

**Data:** at 43 °C in the box, delta of in-out oil was 0.4 °C.

### **Jim (for Tim)**

Enclosure is done.

Prior data showed good control of T

**Components that have to be in the box:** MM, transducer, and thermocouples,

Other components: pressure regulator inclusion in the box is optional

Thermocouple placement: when placed in front the MM, TC touched the insulation, so it had to be moved.

### **Positioning of the cabinet temperature thermocouple:**

TC location: 3" directly above the centerline of MM, 2" above the MM with the tip extending to the vertical plane of the MM.

**Temperature of the enclosure:** 50°C

**Inlet/outlet Thermocouple:** Use the same size: 0.8" diameter

### **Validation:**

Show the following information:

- Temperature of enclosure 50 +/- 3°C
- Delta T of in/out oil: +/- 1°C
- Engine run at operating conditions: 5 hours

### **Actions:**

- Tuesday (10/21): Labs to send data to the TF.
- Thursday (10/23): TF members to send any notes.

If no negative comments, the Matrix will be ready to start.

TF will meet after the third round for data review. Date TBD.

Si-free seals options and Si round robin testing proposal will be sent within 2 weeks.  
(Hind)

**TMC:**

Data dictionary sent in July with no comments and additions. This dictionary will be used for the data.

Oils are at the labs. Labs will request assignment from TMC in order to get started.

**Timeline and Matrix:**

The Matrix is expected to be finished by mid Dec, which is still per the timeline expected by the NCDT.

**Acceptance template review:**

Elisa Santos reviewed section D4, Test Procedure. ASTM facilitator is working on the procedure. This document will be finalized when the Matrix and data are done.

However, in the meantime, the draft is available for reference if needed.