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HOWE A/S  
June 28, 2013  
P.O. No.: Ruben Tychsen

Report No.: 101245707GRR-001  
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**Test Report For:**

**Howe a/s**

**CALIFORNIA TB-133  
FURNITURE SEATING FIRE TEST**

**40/4 Plastic Side Chair**

**Raymond Szwak**  
**Project Manager**

**James Jantz**  
**Reviewer**

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## **CALIFORNIA TB-133 TEST PROCEDURE**

Flammability Test Procedure for Seating  
Furniture for use in Public Occupancies

### **Test Procedure:**

The submitted sample was tested according to the procedure outlined in the Bureau of Home Furnishing's Technical Bulletin Number 133, dated January, 1991.

### **Test Ignition Source:**

Square Gas Burner as described in Appendix C.

### **Test Sample Conditioning:**

Pre-conditioned 48 hours at  $70 \pm 5^{\circ}\text{F}$  and relative humidity of less than 55%.

### **Test Criteria:**

Seating furniture fails to meet the requirements of Technical Bulletin 133 under Group A if any of the following criteria are exceeded:

#### **Criteria Group A:**

1. Temperature increase of  $200^{\circ}\text{F}$  or greater at the ceiling thermocouple.
2. A temperature increase of  $50^{\circ}\text{F}$  or greater at the four (4) foot thermocouple.
3. Greater than 75% opacity at the four (4) foot smoke opacity monitor.
4. Carbon monoxide concentration shall not continuously exceed 1000 ppm for five (5) minutes.
5. Greater than 3 lbs. weight loss in the first ten (10) minutes of test.

Seating furniture fails to meet the requirements of Technical Bulletin 133 under Group B if any of the following criteria are exceeded:

#### **Criteria Group B:**

1. A maximum rate of heat release of 80 kW or greater.
2. A total heat energy release of 25 MJ or greater in the first 10 minutes of the test.
3. Greater than 75% opacity at the four (4) foot smoke opacity monitor.
4. Carbon Monoxide concentration shall not continuously exceed 1000 ppm for five (5) minutes.

Date Received:  
Date Tested:

June 26, 2013  
June 28, 2013

**Test Sample Description (per Howe a/s):**

Product:	40/4
Model Number:	Sidechair Plastic
Condition of Samples:	Production
Fabric Type:	PA6 30% GF
Fabric Color:	Black
Blocking Description (if present):	None Stated
Filler Description (order of layering):	PA6 30% GF
Seat Cushion Dimensions:	Seat 45x43x10 mm
Back Cushion Dimensions:	Back 47x30x10 mm
Arm Description (if present):	None Stated
Additional Comments:	None Stated

**Test Procedure:**

Conduct the California TB-133 Seating Product Burn Test on the **40/4 Plastic Side Chair**. Determine if the submitted sample meets the test requirements.

**Acceptance Criteria:**

The acceptance level criteria are listed in the summation table on the following page.

**Conclusion:**

The test results show that the **40/4 Plastic Side Chair** passed both Criteria A and Criteria B of the California TB-133 Burn Test.

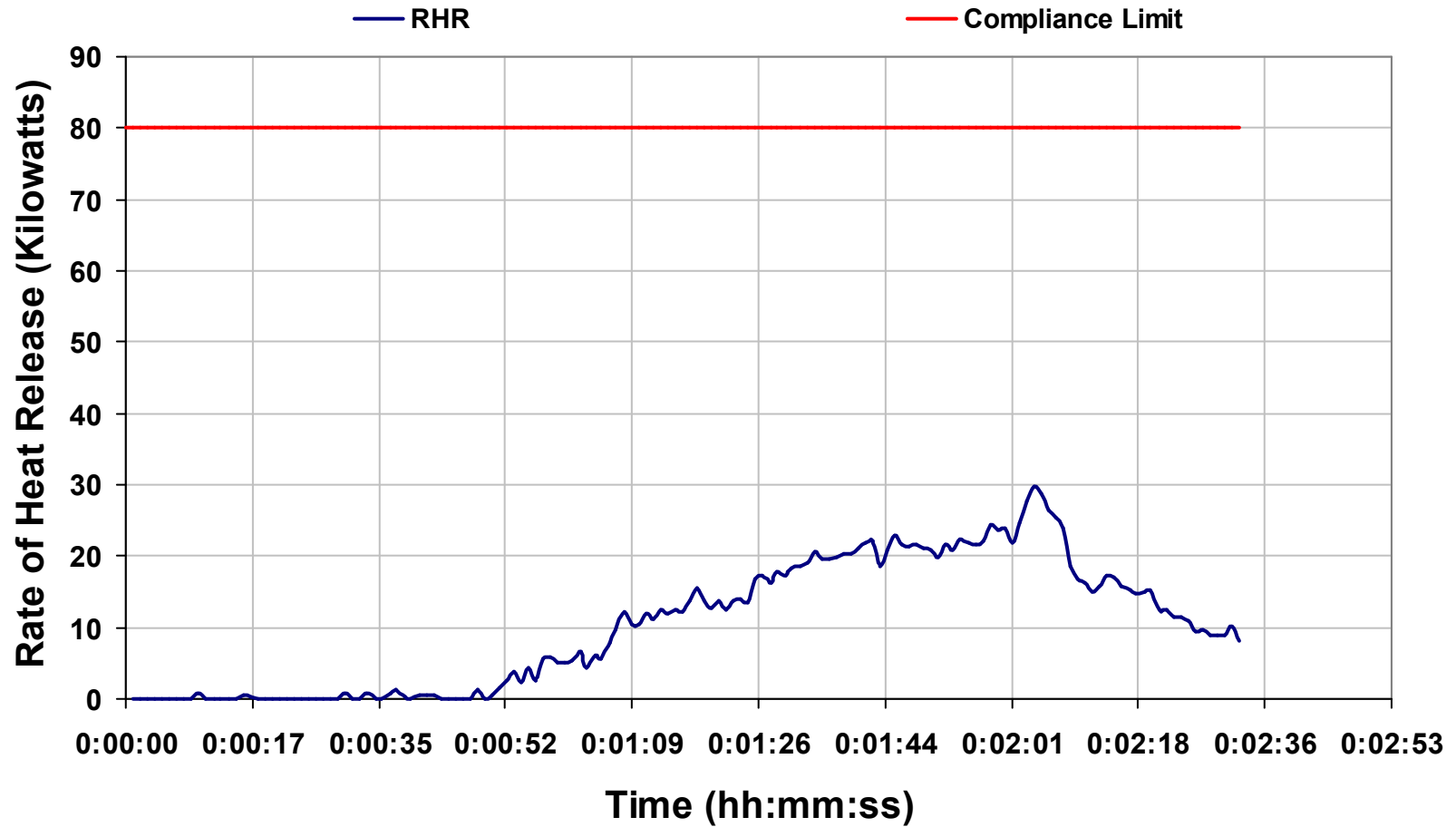
**Test Equipment:**

Asset No.:	Description:	Cal Due:
138245.1	SCALE	12/12/2013
138051.9	SMOKE DENSITY MONITOR 0-100%	VBU
138051.26	CARBON MONOXIDE / DIOXIDE ANALYZER	VBU
138051.18	OXYGEN ANALYZER	06/05/2014
138051.31	DPI DIFFERENTIAL PRESSURE TRANSDUCER	05/14/2014
138112	GRADUATED RULE 36"	08/27/2013
138001	FLOW METER 0-14 SLM PROPANE	09/07/2013
138301	STOPWATCH	07/10/2014

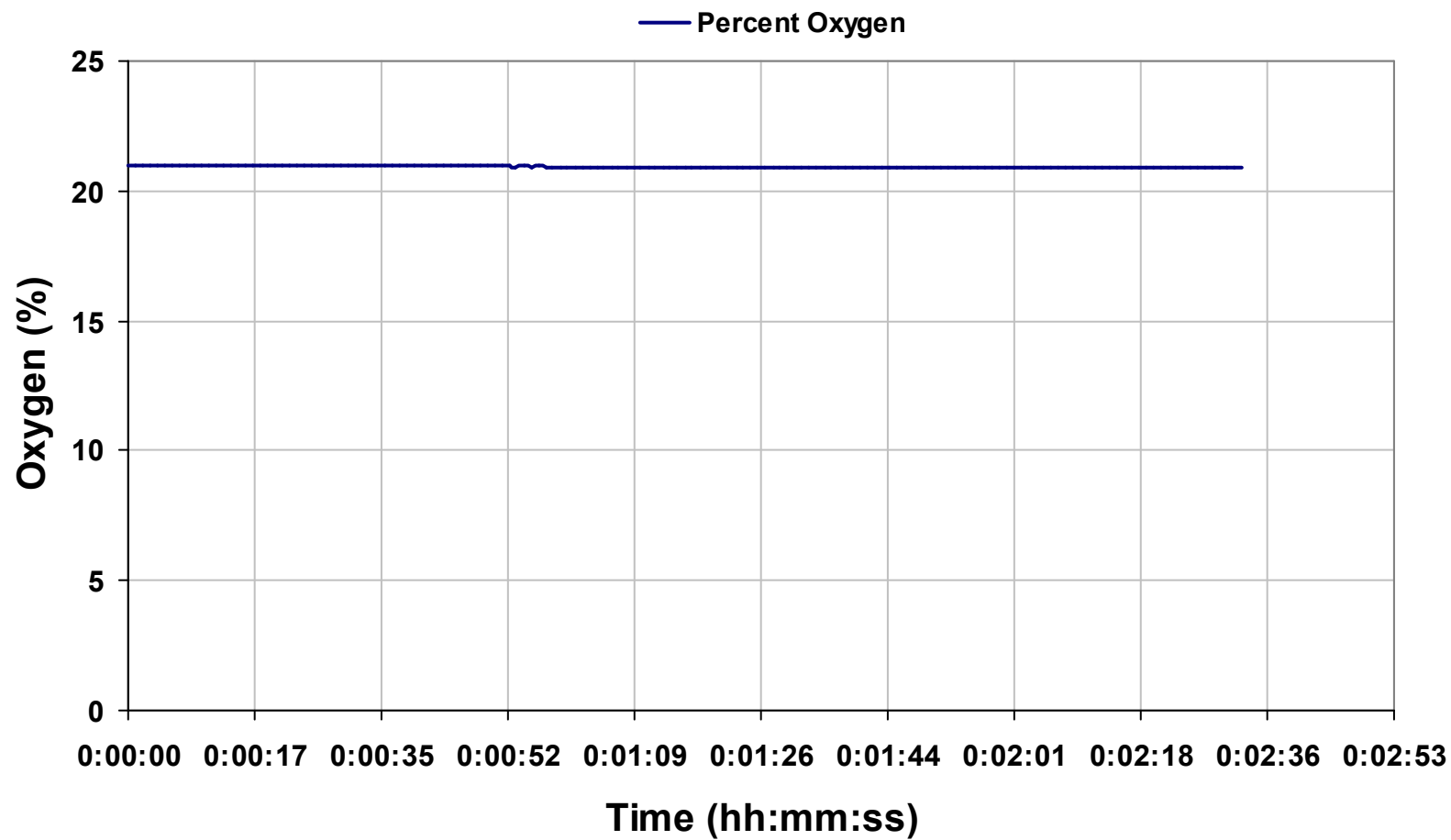
### CALIFORNIA TB-133 FIRE TEST SUMMATION

	Criteria	Actual Value	Pass/Fail
8' Temp. Increase, (maximum), °F	$\leq 200^{\circ}\text{F}$	75 °F	Pass
4' Temp. Increase, (maximum), °F	$\leq 50^{\circ}\text{F}$	6 °F	Pass
4' Smoke Opacity, (maximum), %	$\leq 75 \%$	1 %	Pass
CO concentration (maximum), ppm	N/A	364 ppm	N/A
Time CO is greater than 1,000 ppm (min:sec):	< 5:00	0:00	Pass
Pre-test weight of chair	N/A	14.80 lb	N/A
Weight loss at 10 minutes	$\leq 3 \text{ lbs}$	0.00 lbs	Pass
Post-test weight of chair	N/A	14.80 lbs	N/A
Flame out (min:sec)	N/A	2:33	N/A
Max. Rate of Heat Release (kW)	$\leq 80 \text{ kW}$	30 kW	Pass
Total Heat Energy Release in 1 <sup>st</sup> 10 mins. (MJ)	$\leq 25 \text{ MJ}$	1.6 MJ	Pass

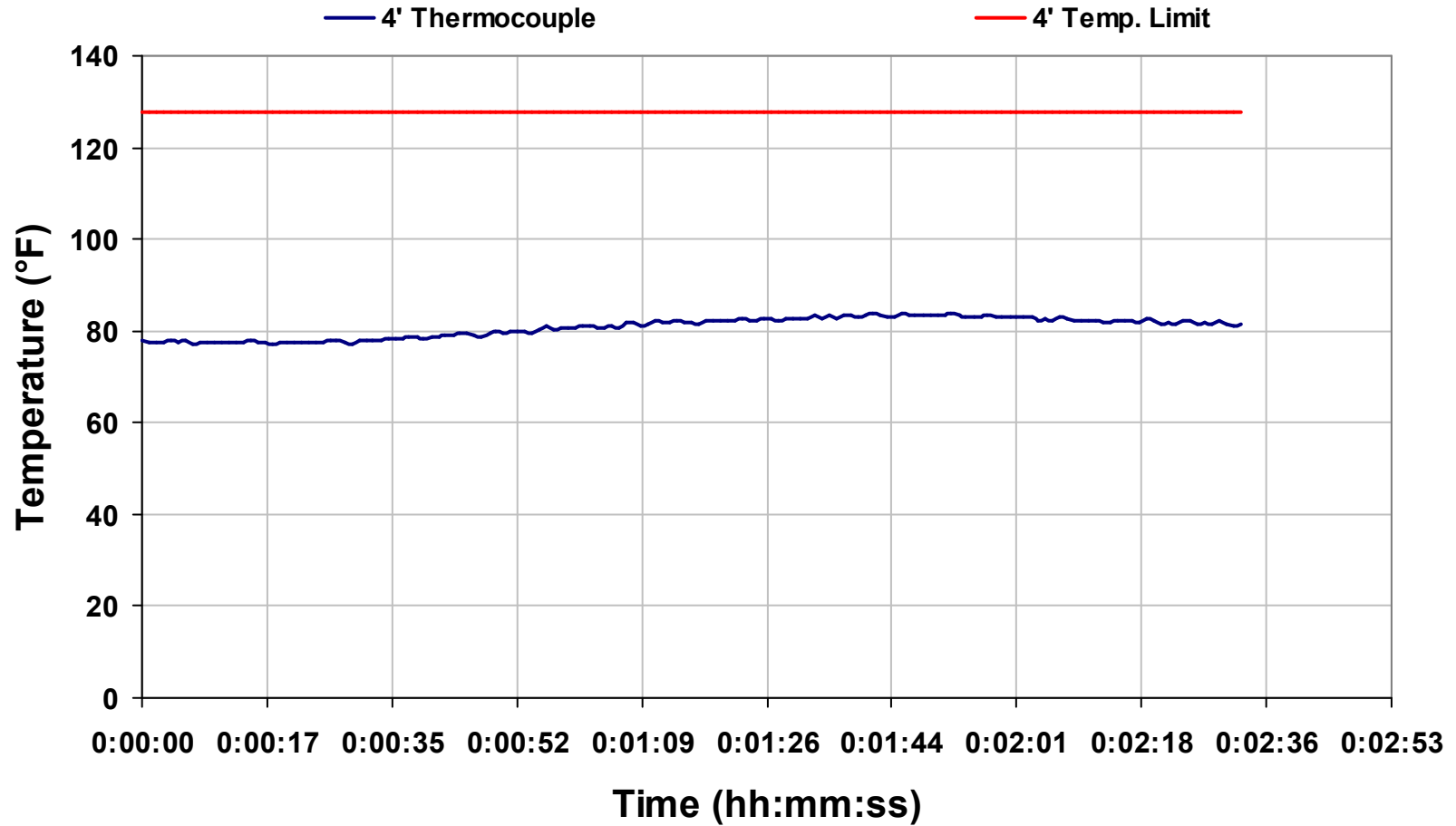
## Rate of Heat Release



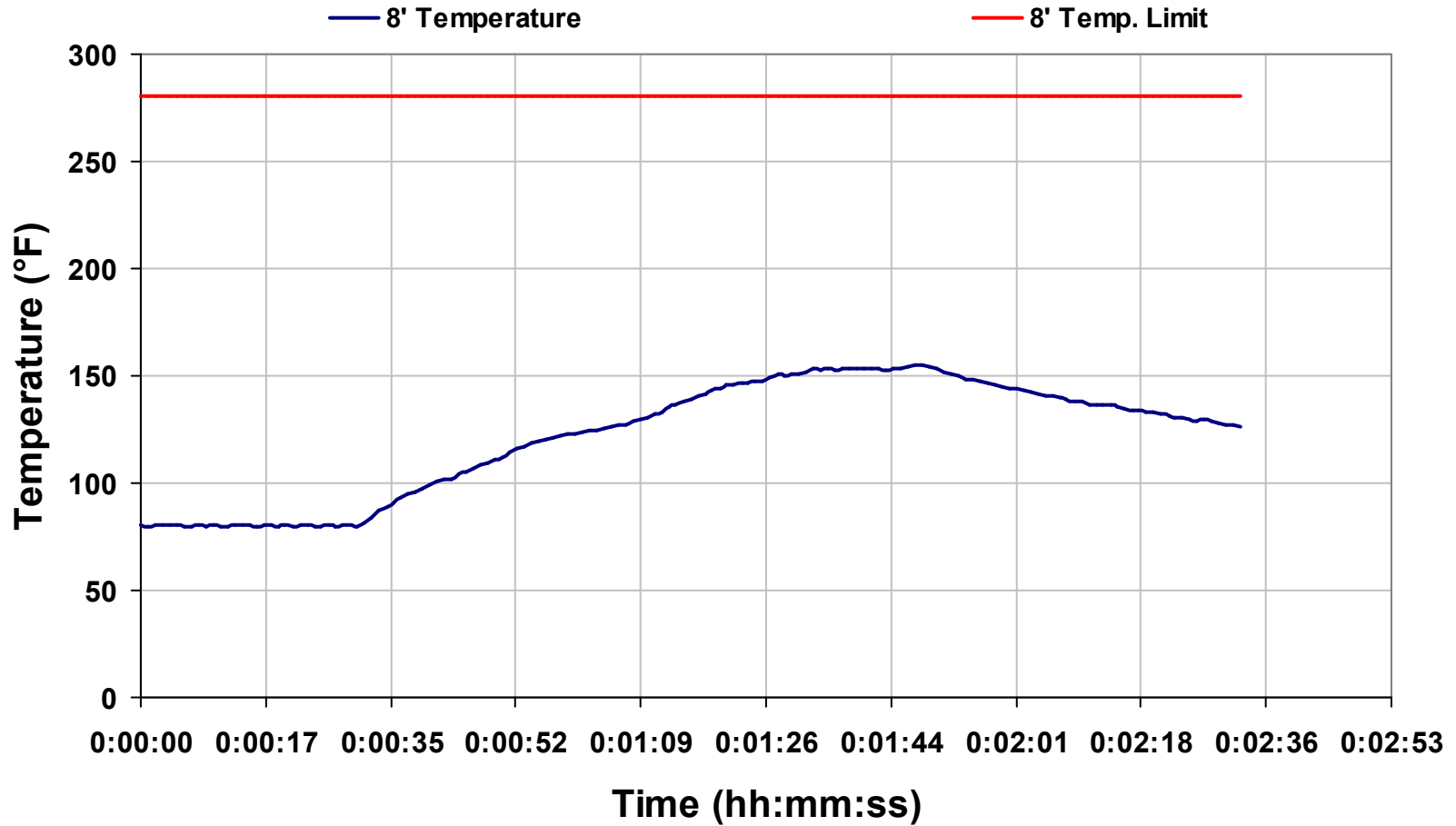
## Percent Oxygen



## 4' Thermocouple Temperature

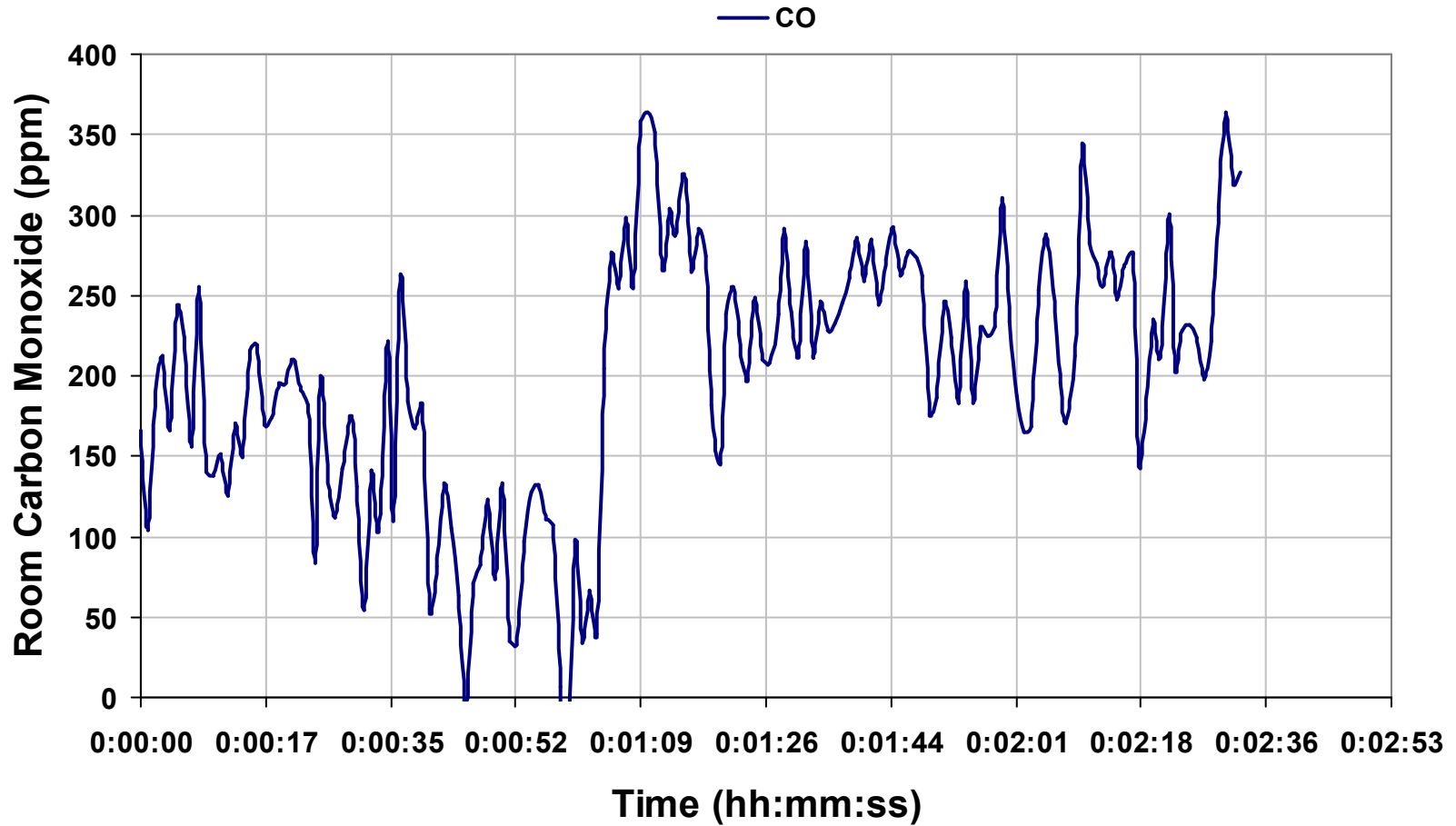


## 8' Thermocouple Temperature

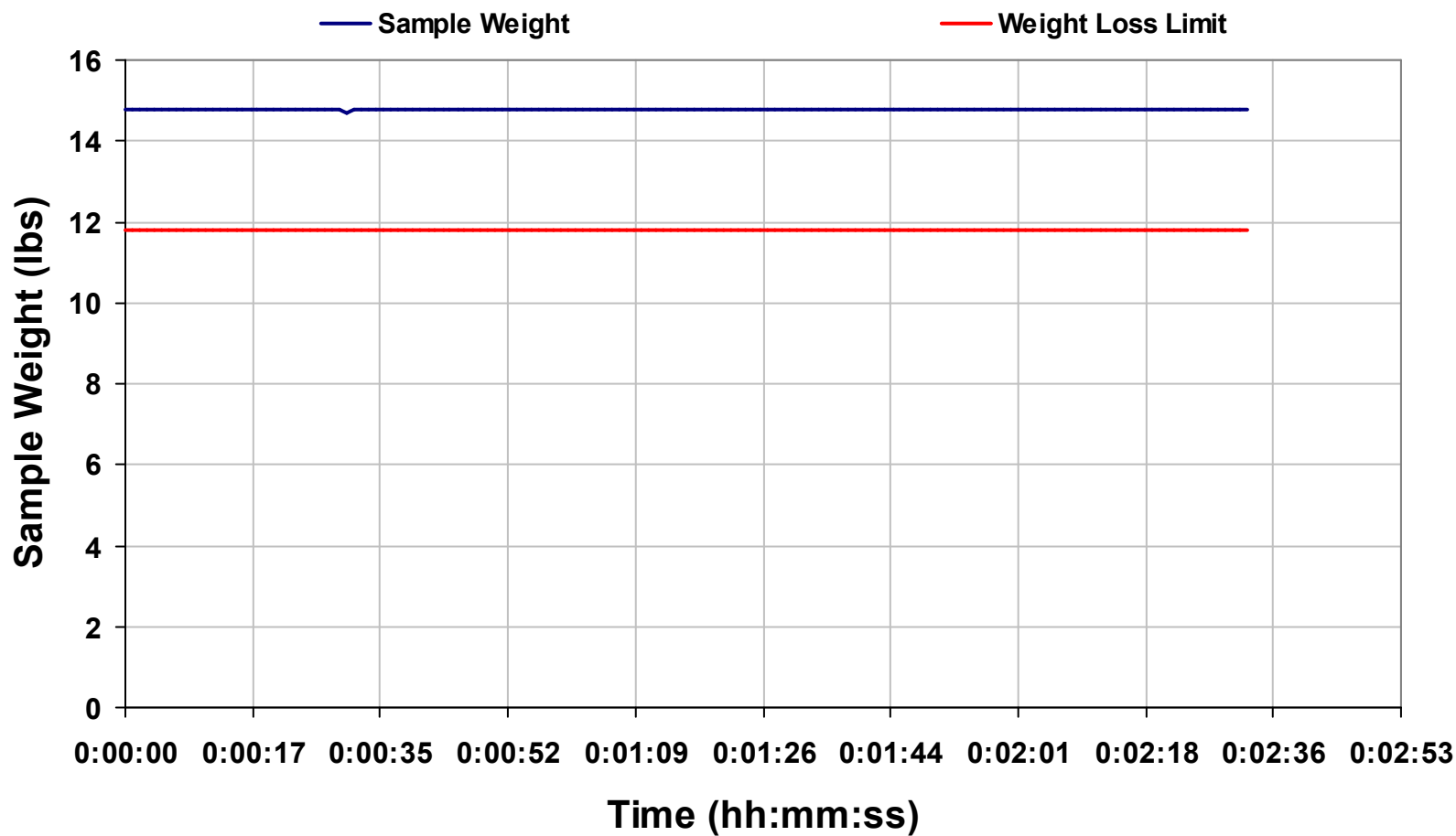




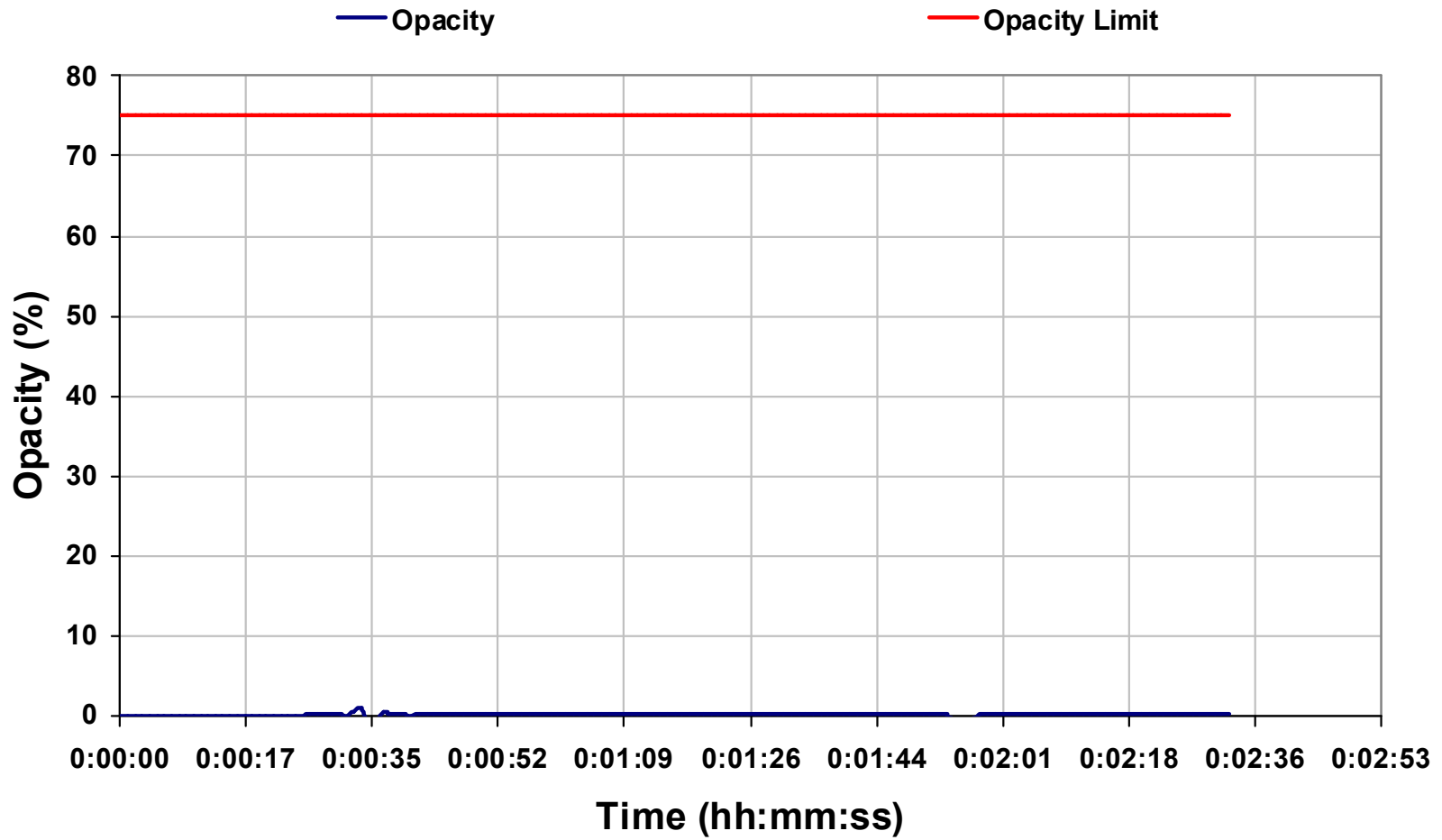
## Room Carbon Monoxide



## Sample Weight (scale reading)



## Opacity



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## Revisions Made To Test Report

[illegible]