

Engine Nacelle, Halon Replacement

Reconsidering Carbon Dioxide as a Fire Extinguishant ~ Status

Presented to: FAA International Aircraft Systems Fire Protection Working Group

On Behalf of: Doug Ingerson

Federal Aviation Administration

WJ Hughes Technical Center/Fire Safety Branch

Atlantic City Int'l Airport, NJ USA

tel : 609-485-4945

email : Douglas.A.Ingerson@faa.gov

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Presentation Overview

- **Show CO2 distribution test results to date.**
- **Identify future plans.**



CO2 Distribution in the FAATC NFS

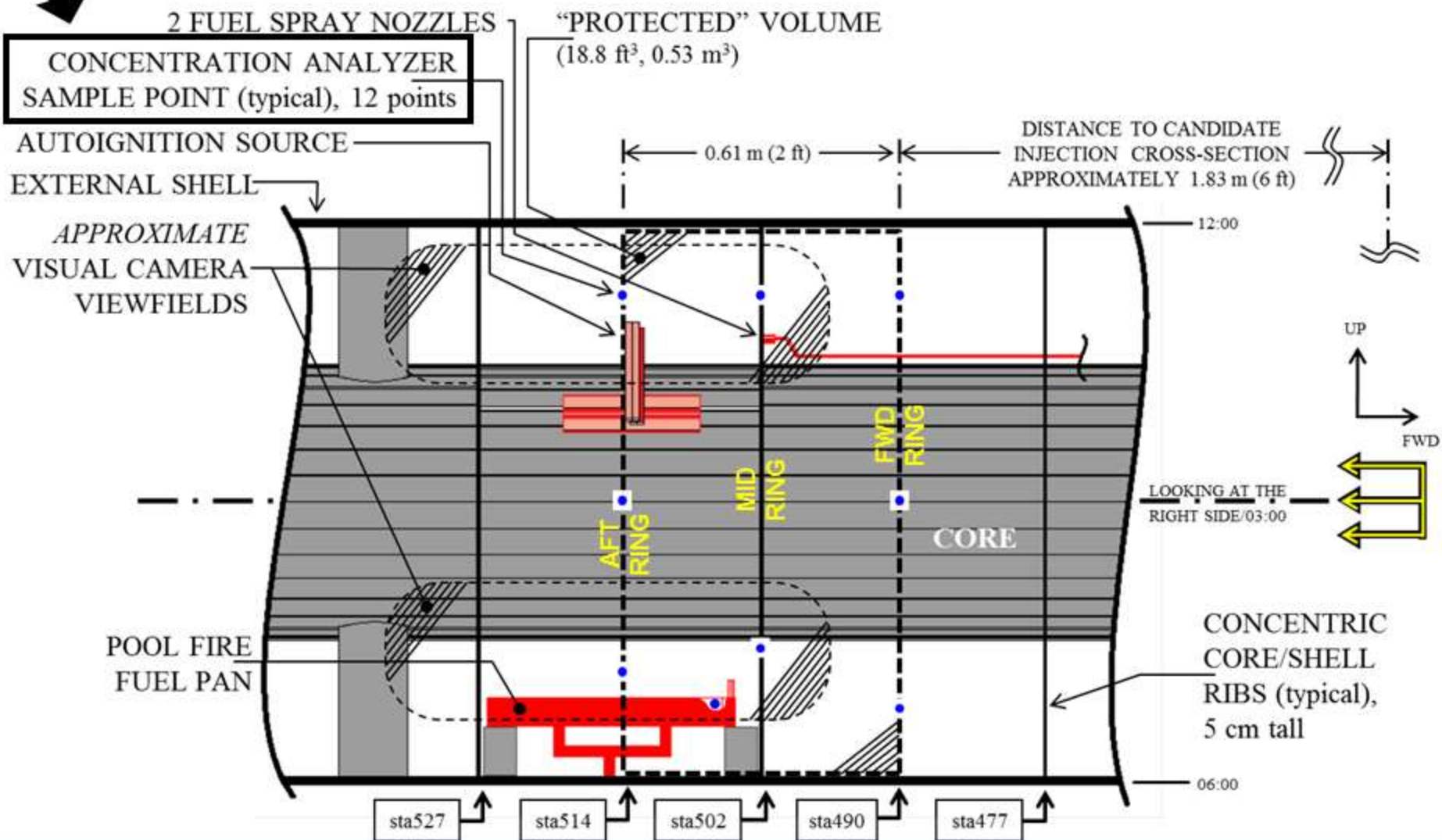
1. Measured CO2 distribution with a locally-modified, Statham-derivative gas analyzer

- A. 12 sample points
- B. associated with “high”-ventilation/spray-fire testing

2. Completed testing Nov 2017

- A. 3 repeated tests, inferior CO2
- B. 3 repeated tests, superior CO2

General Orientation, FAATC NFS



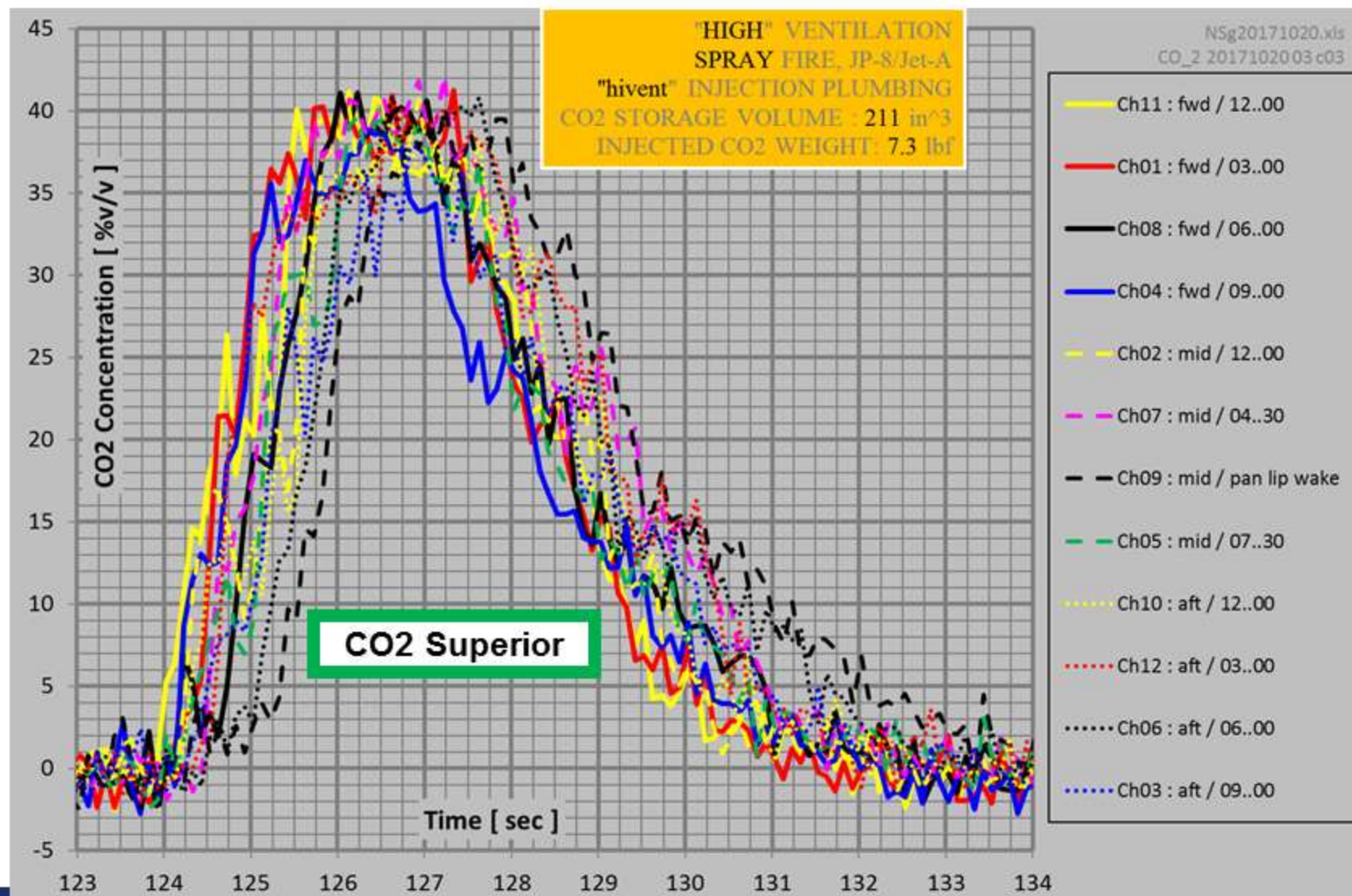
NOTES : Station (sta) numbers are incremented as inches.
Some details omitted for clarity.
This is a schematic view. Not drawn to scale.



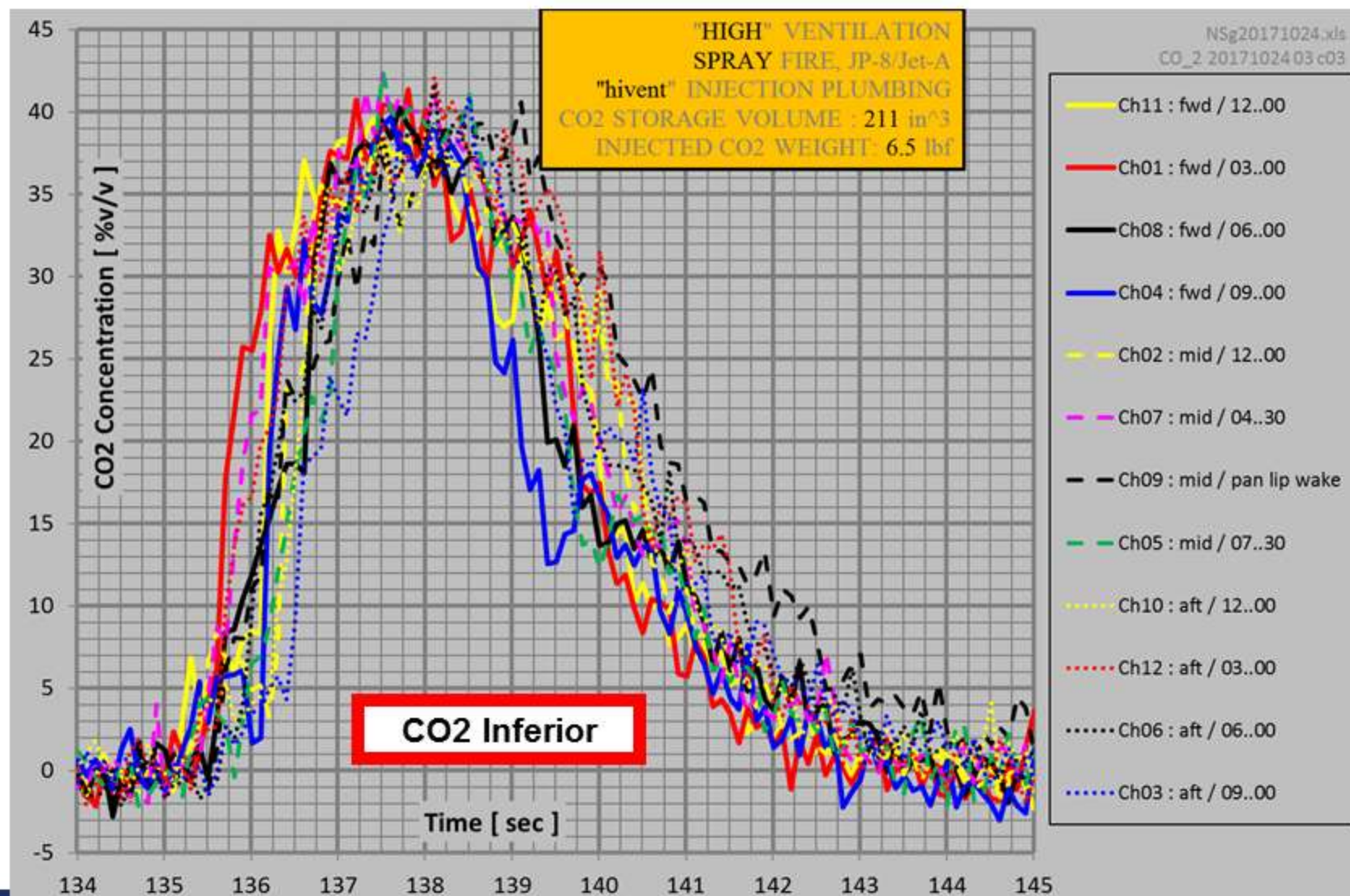
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IASFPWG Meeting, Cologne, Germany, 8-9May2018

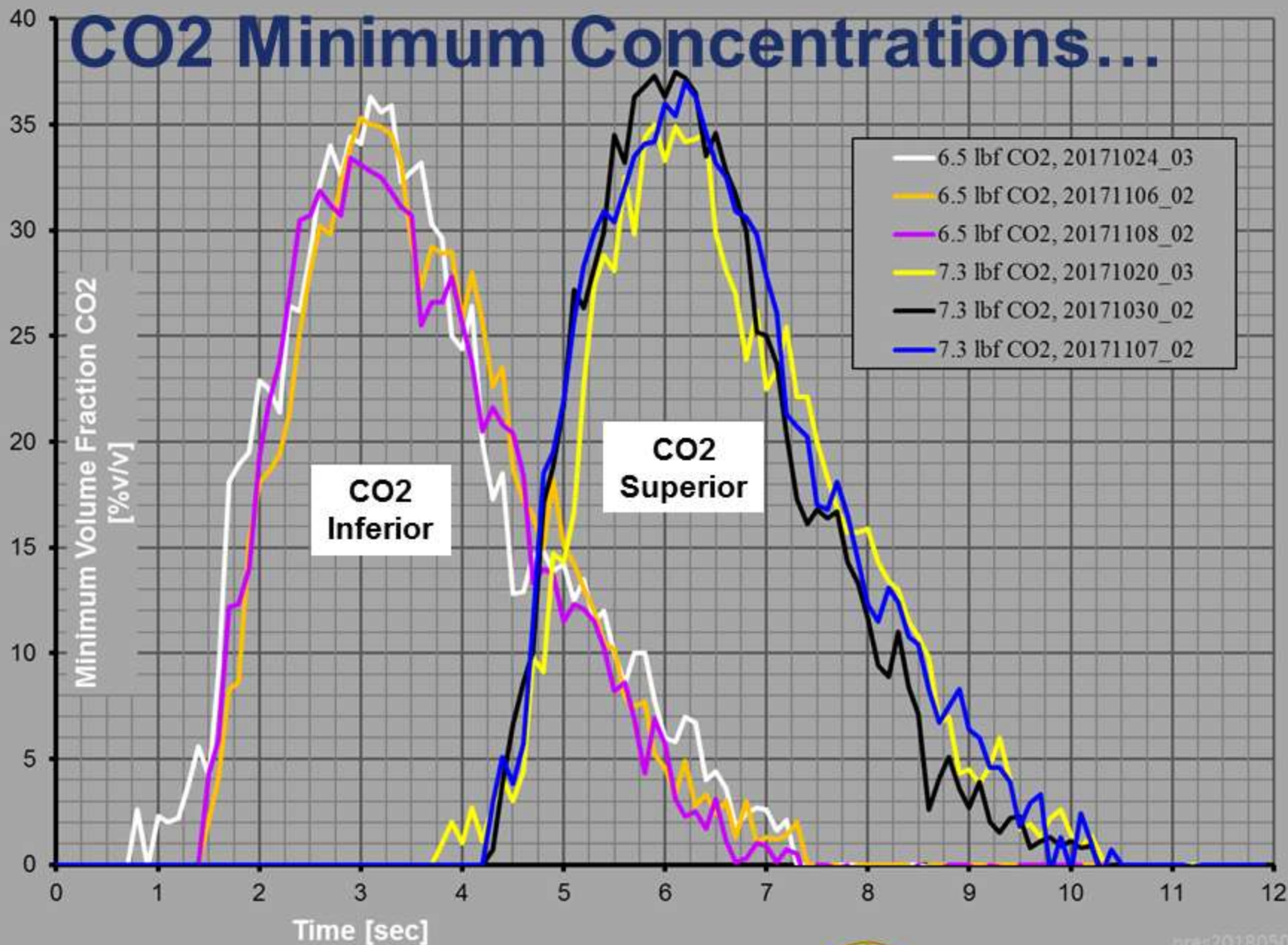
Representative CO2 Distribution...



Representative CO2 Distribution...



CO2 Minimum Concentrations...



pres20180507.xls

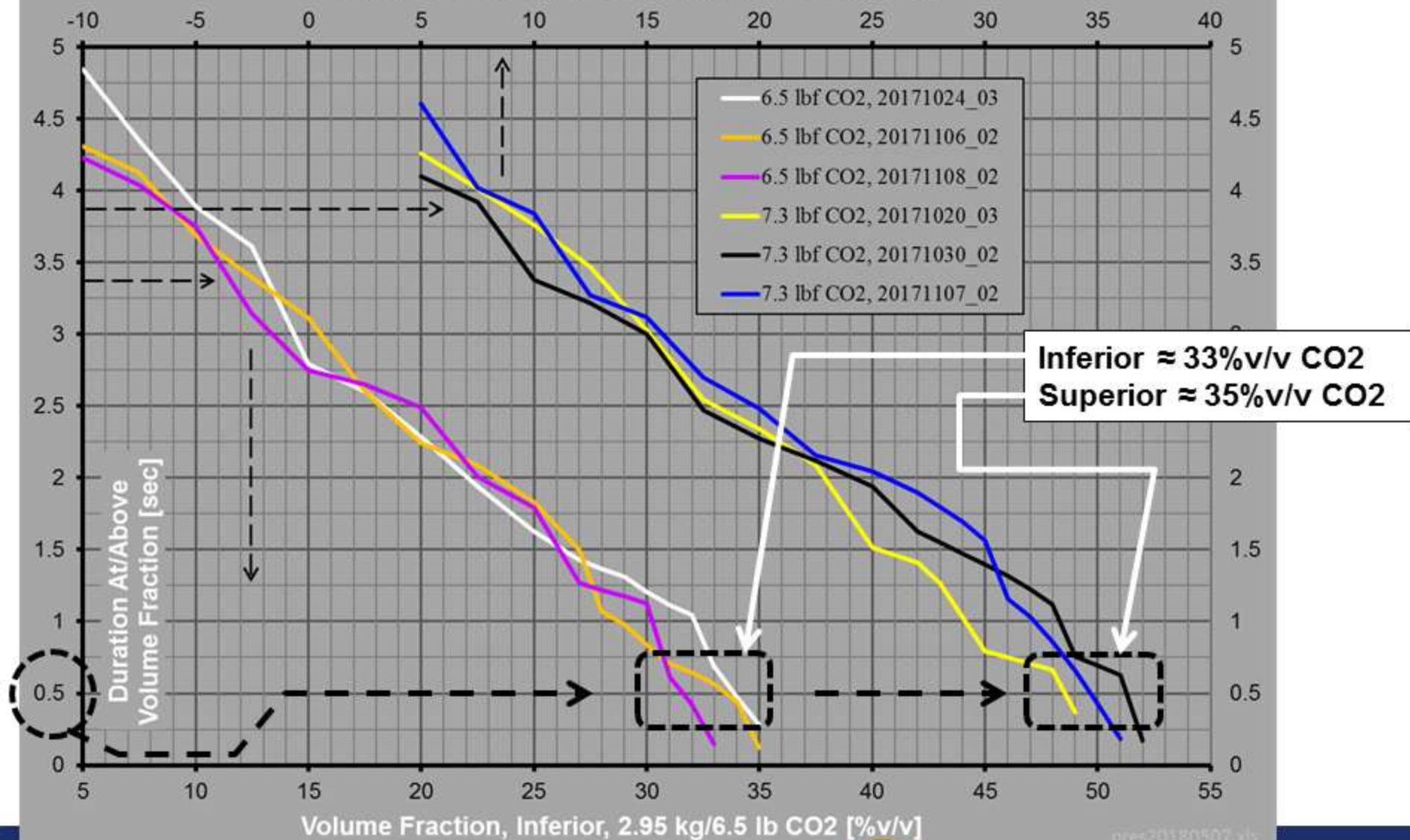


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CO2 Concentration Durations...

Volume Fraction, Superior, 3.31 kg/7.3 lb CO2 [%v/v]



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Near-term plans

1. Complete data review [these results are preliminary]

2. Work with CO2 vs “high”-vent/pool fire

- A. Establish acceptable fire suppression conditions
- B. Capture associated CO2 distribution

3. Review collected information & determine if further testing will occur

