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# Industrial Hygiene Equipment Overview

*if you want it, we got it...*

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**Cherie Berry**, Commissioner of Labor

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# Objectives

1926 Subpart I

- In this course, we will discuss the following:
  - **Why is it important?**
  - **IH equipment**
  - **Calibrations and accuracy**
  - **Effectively managing your time**
  - **Group work**

# Why is it important?

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- Familiarize yourself with all of our equipment
- Ability to evaluate and quantify
- Save time and increase effectiveness
- Knowledge is power

# Indoor Air Quality- Jill Warren

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- Boroscope
  - Fungal growth
- 4-gas meter
  - LEL
  - H2S
  - CO
  - O2
- Qtrak
  - CO
  - CO2
  - T and H



# Active air sampling – John Jaskolka

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- Pumps
  - High flow
  - Low flow
- Calibrators
- Cyclones
  - Dorr-oliver
  - Aluminum
- Media



SGS

GALSON

# Active air sampling – John Jaskolka

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What is this????

# Noise – Paul Sullivan

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- Dosimeters
  - violation
- Octave band analyzers
  - abatements
- Sound level meters
  - screening



# Heat stress– Grant Quiller

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- WBGT
  - handheld





# IH Equipment

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- Draeger CMS
  - Acids
  - Formaldehyde
- Dusttrak
  - Total & respirable dust
  - Mass concentration?
- MIE PDR
  - Total & respirable dust



# IH Equipment

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- ToxiRAE – Single Gas
  - CO
  - CO2
  - CL
  - NH3
- ToxiRAE PID
  - VOC
  - 10.6 lamp



# IH Equipment

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- Jerome J405
  - Mercury vapor
- Extech
  - EMF
- TIFF 5650
  - Halogen detector



# Other Equipment

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- Tachometer
- Force gauge
- pH monitor
- Light meter
- Calipers
- Screens
- Slip meter
- Measuring wheel
- Intrinsically safe camera

# Calibration and accuracy

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- Annual calibrations
  - Dustrak
  - Qtrak
  - WBGT
  - Dosimeters
  - Calibrators
- Maintain these records

# Calibration and accuracy

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- Calibration gas
  - Single gas
  - VOC
  - 4-gas
- Active air sampling
  - Within 5%

# Calibration and accuracy

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- Why is this important??!!

# Effectively managing your time

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- Required to quantify all air contaminant complaints
- Permissible Exposure Limits
  - 8-hour time-weighted averages
  - Short-term exposure limits
  - Ceilings
- Make the best use of your time
  - What does the OSHA Technical manual say



# Effectively managing your time

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- Can you conduct full shift sampling on every inspection?

# Group work #1

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- Referral 203448295 Smithfield Packaging
  - Due to equipment failure in the ventilation system of the production equipment, there was a nitrogen leak that displaced oxygen in the processing area. Five employees were taken to the hospital and treated and released.

# Group work #2

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- Complaint 209612654 Sealand
  - Employees are operating concrete saws without wearing respiratory protection and are exposed to the dust. The work is being performed in the evenings.

# Group work

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- Complaint #209677327 Chicago Tube and Iron
  - Employees are experiencing symptoms, including headaches and nausea, due to being exposed to smoky fumes, from MASTERDRAW® lubricant, coming from the induction oven, and filling the air.

# Group work

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- Complaint #209654250 Tarheel Marble Company, Inc.
  - Employees are experiencing coughing and sneeze while inside the facility. Employees are inhaling dust from the polishing of marble and gas fumes from a machine used to warm parts. Employees are not provided proper mask while inside the facility.



# Summary

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- In this course, we discussed:
  - **Why is it important?**
  - **IH equipment**
  - **Calibrations and accuracy**
  - **Effectively managing your time**

# Thank You For Attending!

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## Final Questions?

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