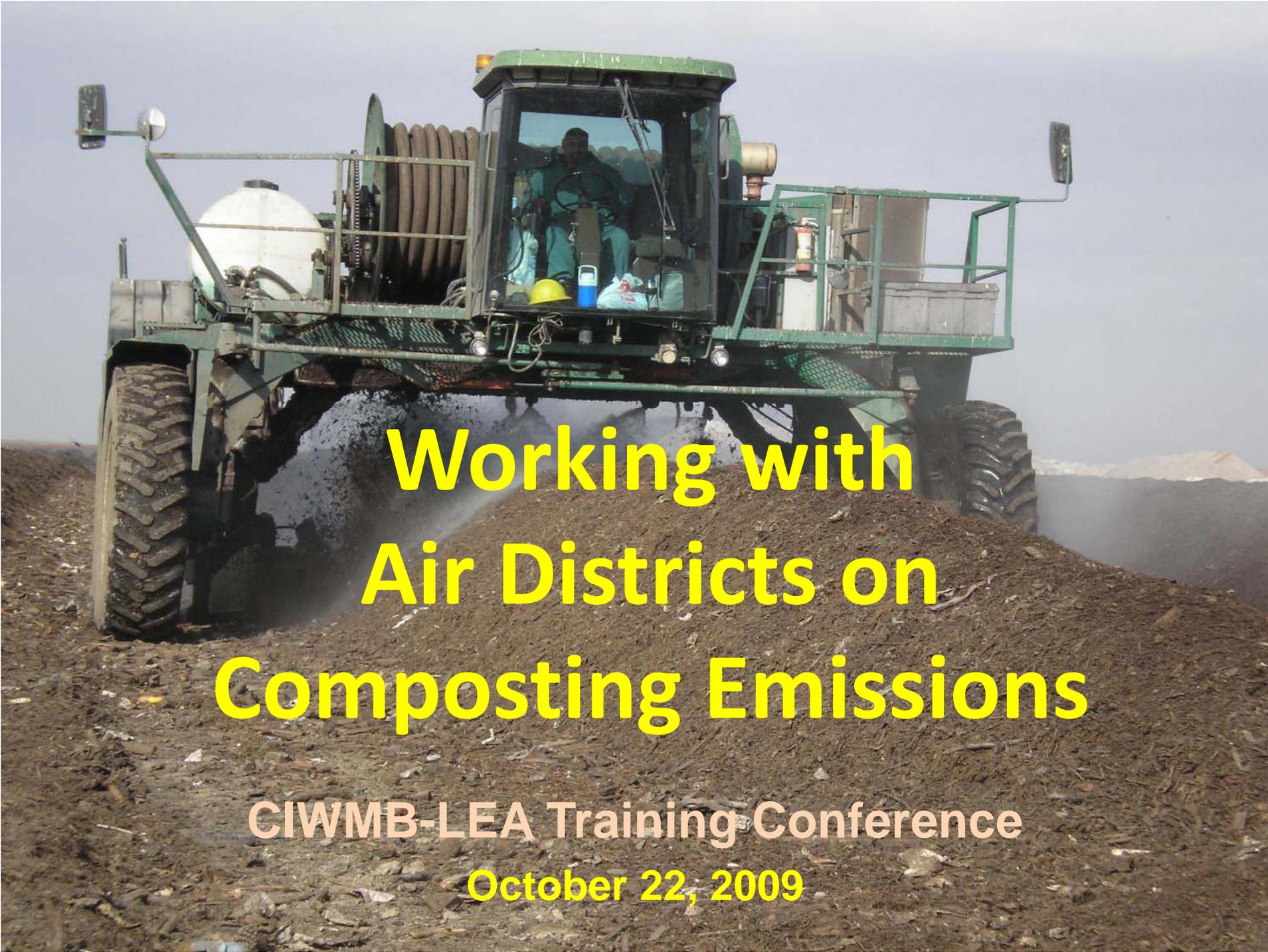


These materials were developed under the auspices of CalRecycle for specific technical training presentations and are posted as reference documents for the local government and CalRecycle staff who attended this technical training series. They are not intended to stand alone as informational or training materials.

If you require assistance in obtaining access to the presentations, call the Public Affairs Office at (916) 341-6300 or Dennis Corcoran at (916) 341-6395.



**Working with  
Air Districts on  
Composting Emissions**

CIWMB-LEA Training Conference

October 22, 2009

# The Issue

- San Joaquin Valley air district implementing regulations which will severely impact greenwaste composting operations
- CIWMB promoting compost as preferred method of organics diversion for 20 years
- SJV home to @50% of all composting capacity in California
- Some SJV composters taking feedstocks from LA basin and from Bay Area

# Federal Clean Air Act

- Directs US EPA to set air quality standards
- Air districts exceeding standards must devise & implement a plan to reduce pollution below threshold
- San Joaquin Valley a “extreme non-attainment” area for ground-level ozone
- Valley air district must regulate all possible stationary sources of pollutants, or face federal penalties

# **Donora, Pennsylvania @ 1944**



**Birthplace of the Clean Air Act**

# **Why Worry About Compost Pile Emissions?**

- Compost piles can give off Volatile Organic Compounds (VOCs)
- When certain VOCs mix with oxides of nitrogen (NO<sub>x</sub>), in the presence of sunlight, photochemical “smog” results
- Smog includes ground-level ozone
- Clean Air Act regulates ozone
- If one air district regulates compost, more will follow!



**Wide open spaces, cheap land and easy access to agricultural markets make the San Joaquin Valley THE place to site large, open windrow compost facilities.**

# Open-windrow composting

As seen from Google Earth! <sup>8</sup>



# Synagro-Kern County



# What to do?

- Get involved early
- Help air quality regulators understand the composting business
- Advocate strong scientific basis for all rulemaking
- Collaborate on basic research
- Bring specialized expertise to the table

# Impact #1:

## *Improving the inventory*

- **Problem:** Valley air district overestimated compost production by combining CIWMB data with inappropriate assumptions
- **Solution:** Work with LEA and operators to provide accurate inventory of facilities and more realistic assumptions
- **Result:** Estimated throughput dropped from 7.5 million tons per year to more realistic 2 million tons, amount of pollution attributable to compost decreases accordingly

## **Impact #2:**

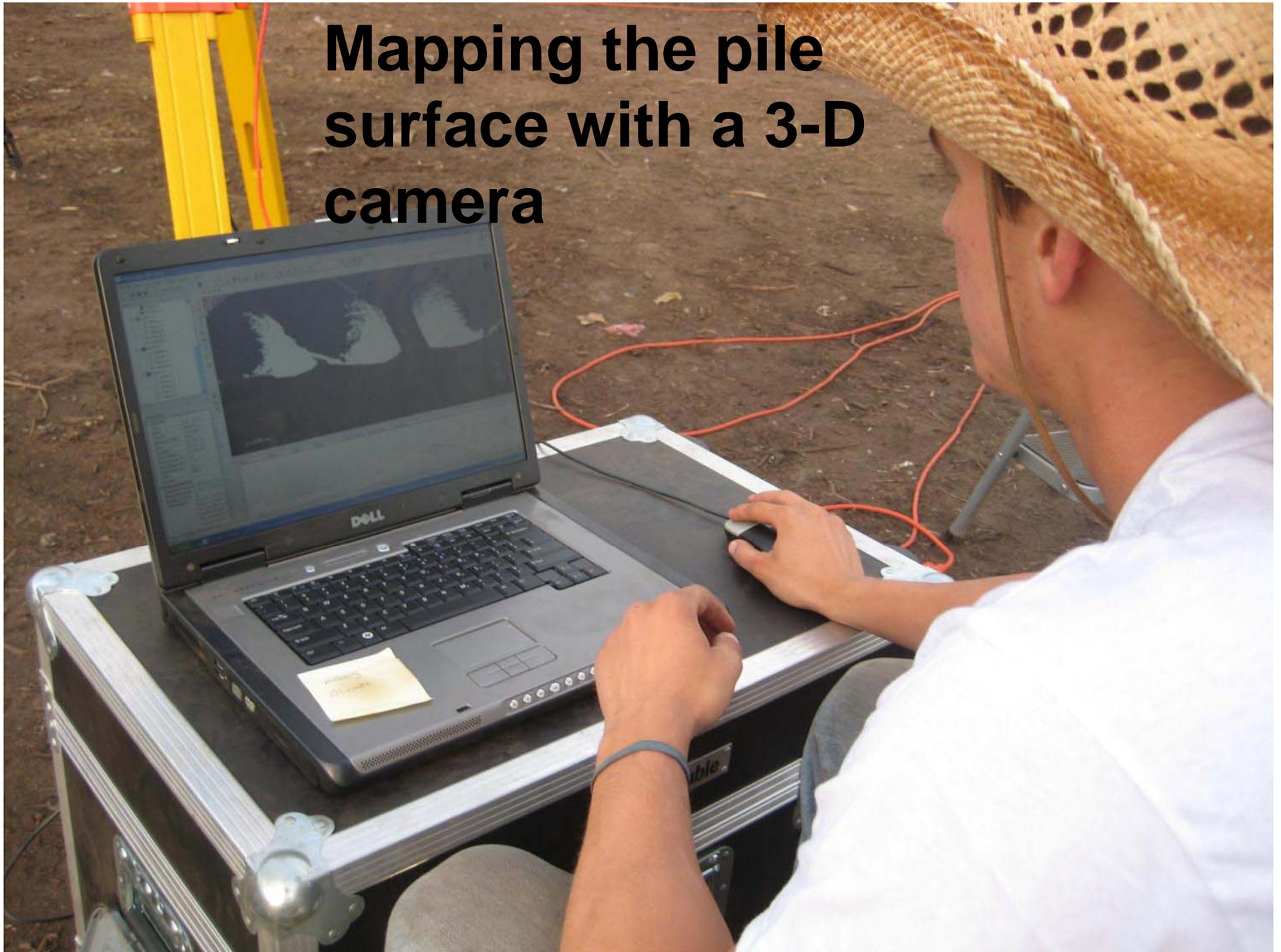
### *Collaborating on basic research*

- **Problem:** Lack of data on compost emissions or effect of management practices on those emissions
- **Solution:** Fund expensive research
- **Result:** Several groundbreaking research projects either concluded, nearing conclusion, or in progress.

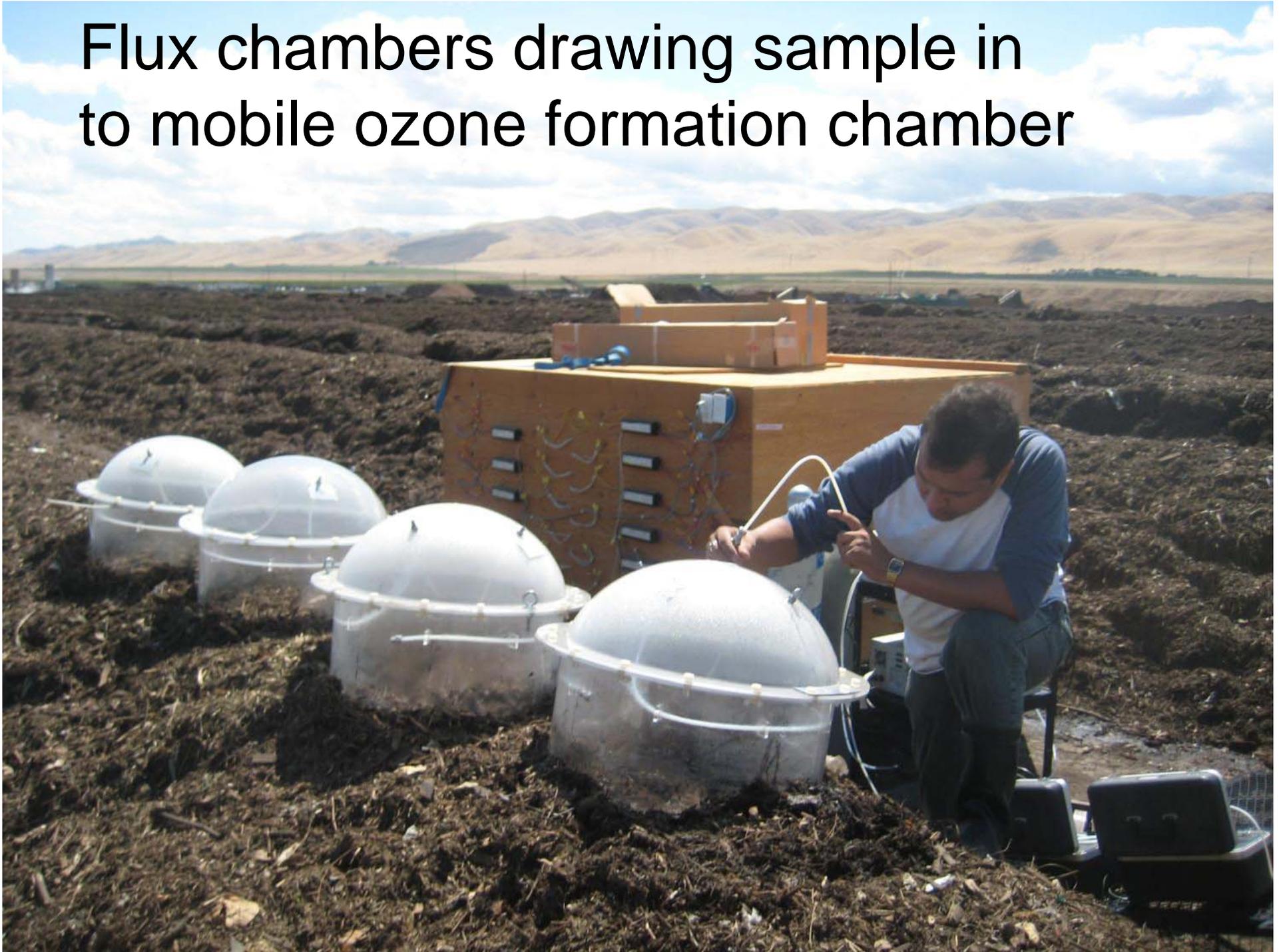
# Measuring emissions using a flux chamber



# Mapping the pile surface with a 3-D camera



Flux chambers drawing sample in  
to mobile ozone formation chamber



**Making  
ozone!**



# Thanks for listening

Bob Horowitz

California Integrated Waste Management Board

[rhoorowit@ciwmb.ca.gov](mailto:rhoorowit@ciwmb.ca.gov)

916-341-6523

CIWMB Web Site

[www.ciwmb.ca.gov/Organics/Air/default.htm](http://www.ciwmb.ca.gov/Organics/Air/default.htm)