



Lost Hills Community Meeting

Study of Neighborhood Air near Petroleum Sources (SNAPS)

October 29, 2018
Wonderful Park Recreation Building

Outline

- Introduction and Scope
- Air Pollutants
- Monitoring Equipment
- Monitoring Location
- Communicating Results



What is SNAPS?

Study of Neighborhood Air near Petroleum Sources

Study of air quality in neighborhoods as cumulative impact from all surrounding sources. Selected neighborhoods are close to oil and gas extraction facilities.

Motivation for SNAPS

- Exposure concerns raised by communities
- Aliso Canyon underground natural gas storage leak
- California Council on Science and Technology (CCST) recommendations
- Part of broader CARB effort to understand impacts of oil and gas operations

SNAPS Scope

Program Goals

Characterize air quality
in communities near oil and
gas operations

Identify emission sources as
feasible

Analyze data for
possible health risks

Major Pollutants

Toxic Air Contaminants (TACs)

Volatile Organic Compounds (VOCs)

Criteria Pollutants
(particulate matter, carbon monoxide,
sulfur dioxide, ozone)

Methane

Hydrogen Sulfide

Metals

Glycols

First Round Communities



Lost Hills

McKittrick and Derby Acres

Baldwin Hills

South Los Angeles

Related CARB Efforts

- Methane regulation
- Targeted air sampling at some well stimulation events (e.g. fracking)
- Oil and gas produced water (wastewater) pond research
- Statewide greenhouse gas network
- California Airborne Methane Survey
- Clean Air Protection Program (AB 617)



Monitoring Scope

- Characterize air quality in communities near oil and gas production facilities
 - Criteria pollutants and air toxics
- Limited-term, intensive air quality monitoring
 - 3-4 months
- Evaluate measured concentrations using health-based guidance levels

Air Pollutants Measured

-with a focus on Toxic Air Contaminants-

On-Site Measurements

Black carbon (BC)
Particulate Matter (PM _{2.5})
Hydrogen Sulfide (H ₂ S)
Methane/Carbon Dioxide/Carbon Monoxide (CH ₄ /CO ₂ /CO)
Ozone (O ₃)
Speciated Volatile Organic Compounds (VOCs)

Discrete Samples

Glycols
Sulfur-containing compounds
PAHs/Semi-volatile organics
Aldehydes
Speciated Volatile Organic Compounds (VOCs)
PM Bound Metals

Stationary Trailer



- Extensive air pollutant monitoring
- Pollutant speciation with sophisticated instrumentation
- Logistical requirements
 - Space/footprint
 - Power

Mobile Monitoring Vehicle

- Community air pollutant screening
- Provide measurements as needed away from trailer
- Pollutants:
 - Methane
 - Carbon dioxide/monoxide
 - BTEX
 - Speciated VOCs (grab samples)



Monitoring Discussion

- What are your air pollution concerns?
- Do you have questions about our monitoring approach?

Possible Monitoring Sites

1. Lost Hills Union School District Office
2. Department of Water Resources
3. Wonderful Park



Site #1: Lost Hills School District

- Western boundary of Lost Hills
- Adjacent to school
- < 1 mile from Lost Hills Oil Field
- Onsite traffic emissions



Site # 2: Department of Water Resources

- Western/Central Lost Hills
- Location offers central community measurements



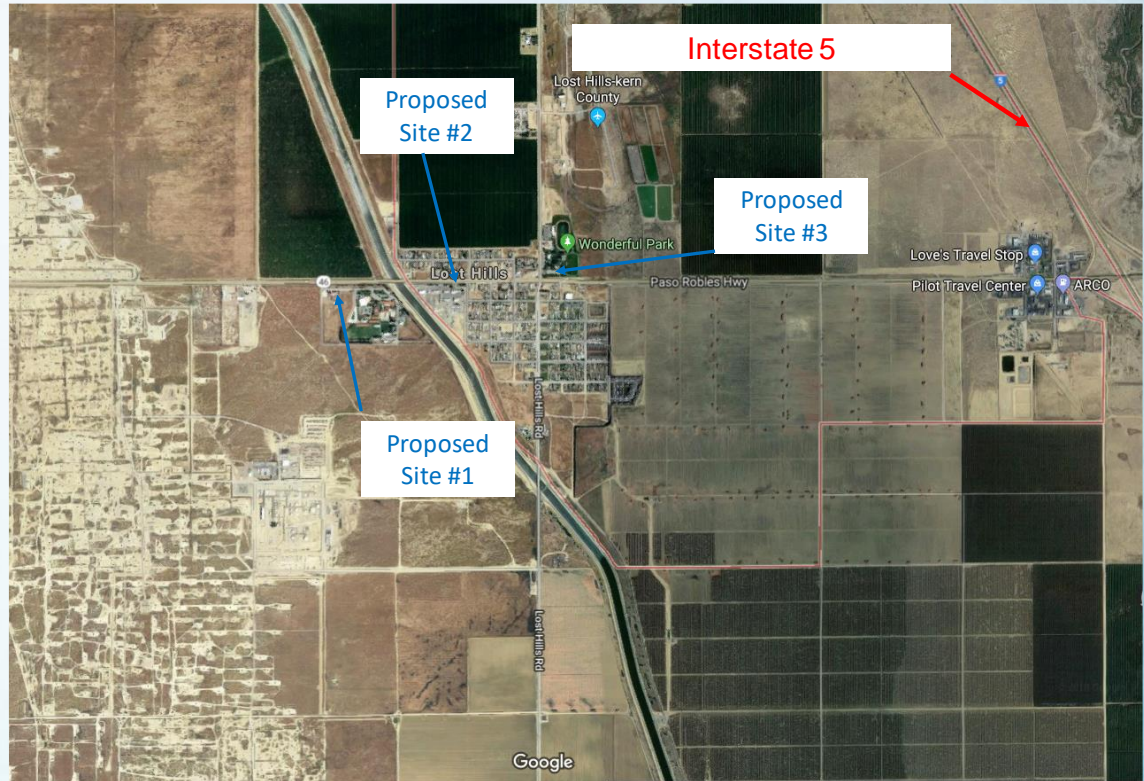
Site # 3: Wonderful Park

- Eastern boundary of Lost Hills
- Possible community emissions from:
 - Airport
 - Traffic (e.g, Interstate 5)
 - Agriculture



Other Monitoring Sites?

- What suggestions do you have?



Data Availability

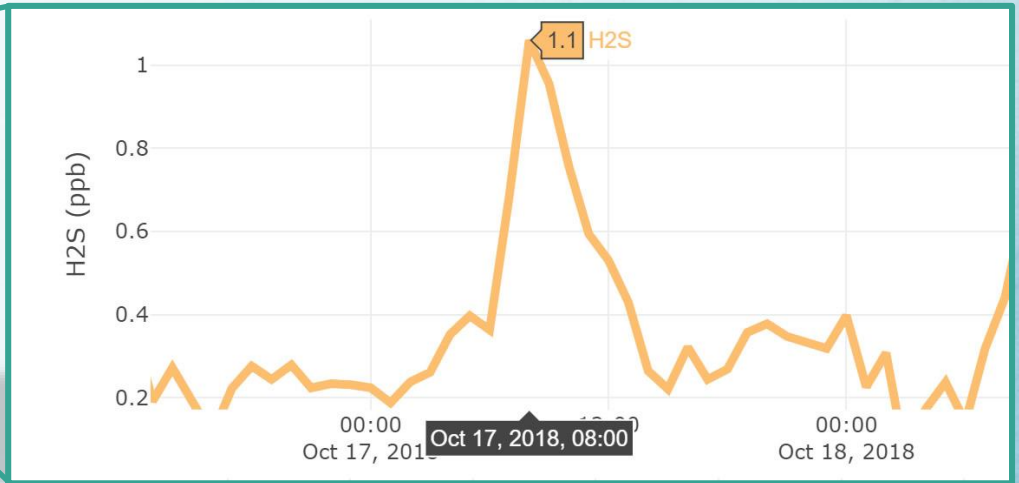
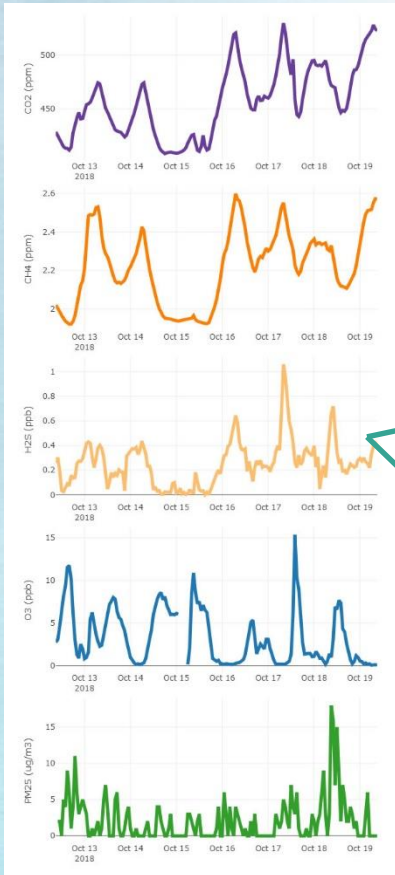
Measurement	Pollutants	Time to Public Posting of Data
On-site Instrumentation	CH ₄ , H ₂ S, O ₃ , CO, CO ₂ , PM _{2.5} , black carbon (BC)	Hourly ⁽¹⁾
Discrete Samples	Toxic air contaminants (TACs), non-TAC VOCs and metals	With published report ⁽²⁾

(1) Results streamed hourly on project website.

(2) Report published 6 months following the completion of monitoring.

Communicating Results

- Hourly criteria pollutant data available online
- Example visualizations



Communicating Results

- Compare community air quality against regional air quality?
- Compare community air quality against Air Quality Index?
- Ideas for better communication?

Further Analysis

- Health analysis
 - Office of Environmental Health Hazard Assessment (OEHHA)
- Data analysis
 - CARB



OEHHA Evaluation of Potential Health Risks

- Relate short- and longer-term exposure levels to health-based guidance values
 - Acute, 8-hour, chronic Reference Exposure Levels (RELs)
 - Cancer potencies
- Characterize potential health risks
- Follow up on measured chemicals without existing guidance levels

Emission Reductions

If elevated pollutant levels found:

- Attempt to determine the source

If from oil and gas extraction, CARB could:

- Coordinate with SJVAPCD and DOGGR
- Work with operator to pursue solutions
- Explore broader solutions, as appropriate

Resources and Contact Information

- Project webpage
<https://ww2.arb.ca.gov/our-work/programs/study-neighborhood-air-near-petroleum-sources>
- Visit project webpage to Subscribe and receive email updates
- Email us at SNAPS@arb.ca.gov or call contacts below:

Events & General Project Questions

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