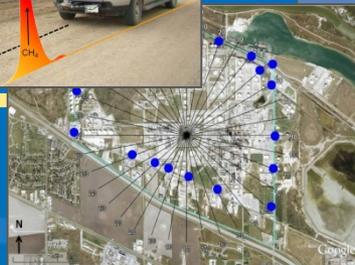
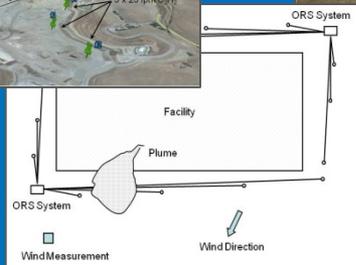
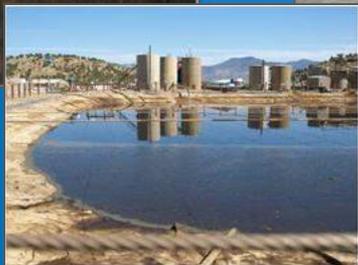
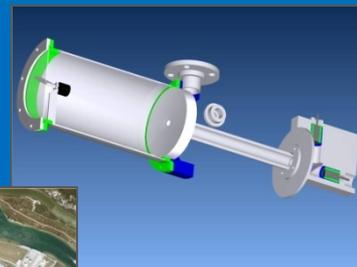
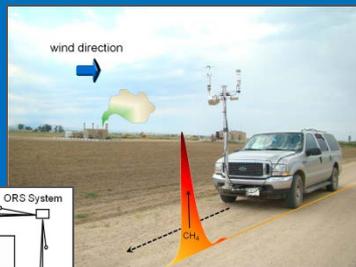
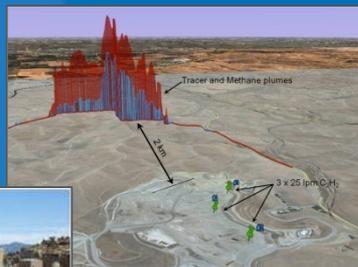
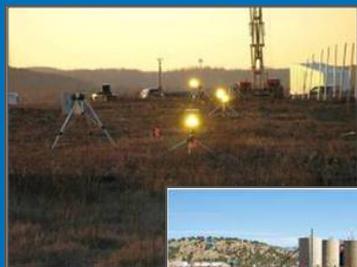


Rubbertown NGEM Demonstration Project Planning meetings, April 18-19, 2017

Eben Thoma (for the project team)

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Rubbertown NGEM Demonstration Project

Planning Meetings, April 18-19, 2017

What I do at EPA:

- I am a scientist with the research part of EPA (representing a team)
- I research difficult to measure air pollution sources

What is NGEM?

- NGEM stands for Next Generation Emission Measurements
- NGEM can help us understand sources of air pollution

What do we want to do?

- Work together to try new NGEM approaches in Rubbertown
- Learn about new methods and air pollution sources (research)

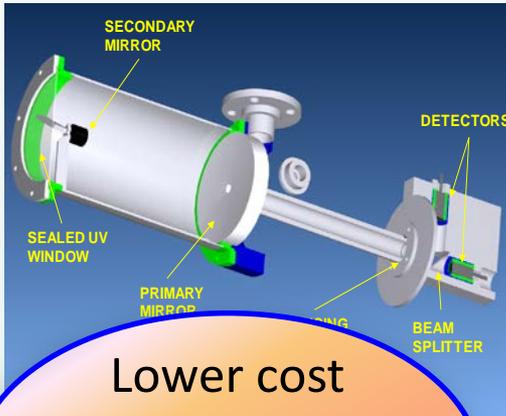


<http://www.goengineer.com/2012/09/13/the-versatility-of-edrawings-for-the-ipad/>

If only we had a tricorder!

New type of NGEM tools for fugitive sources

Deep UV optical sensor



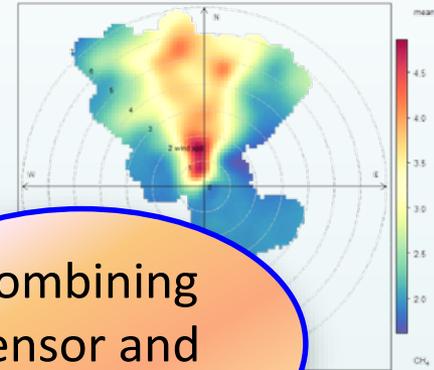
Lower cost
open-path
optical
systems

Drive-by leak inspection



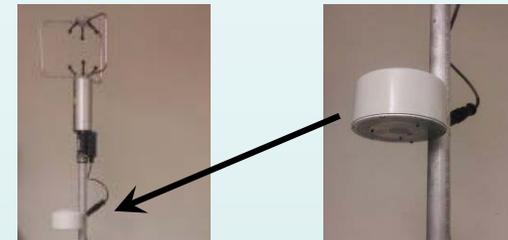
Mobile
inspection
systems

New leak-location algorithms



Combining
sensor and
wind data

Drop-in-place sensor packages



Prototype PID sensor package
(pres. temp. , RH., VOC)

Low-cost
stand-alone
sensors

Lower cost sensor
with inverse source
algorithms





Ambient monitoring

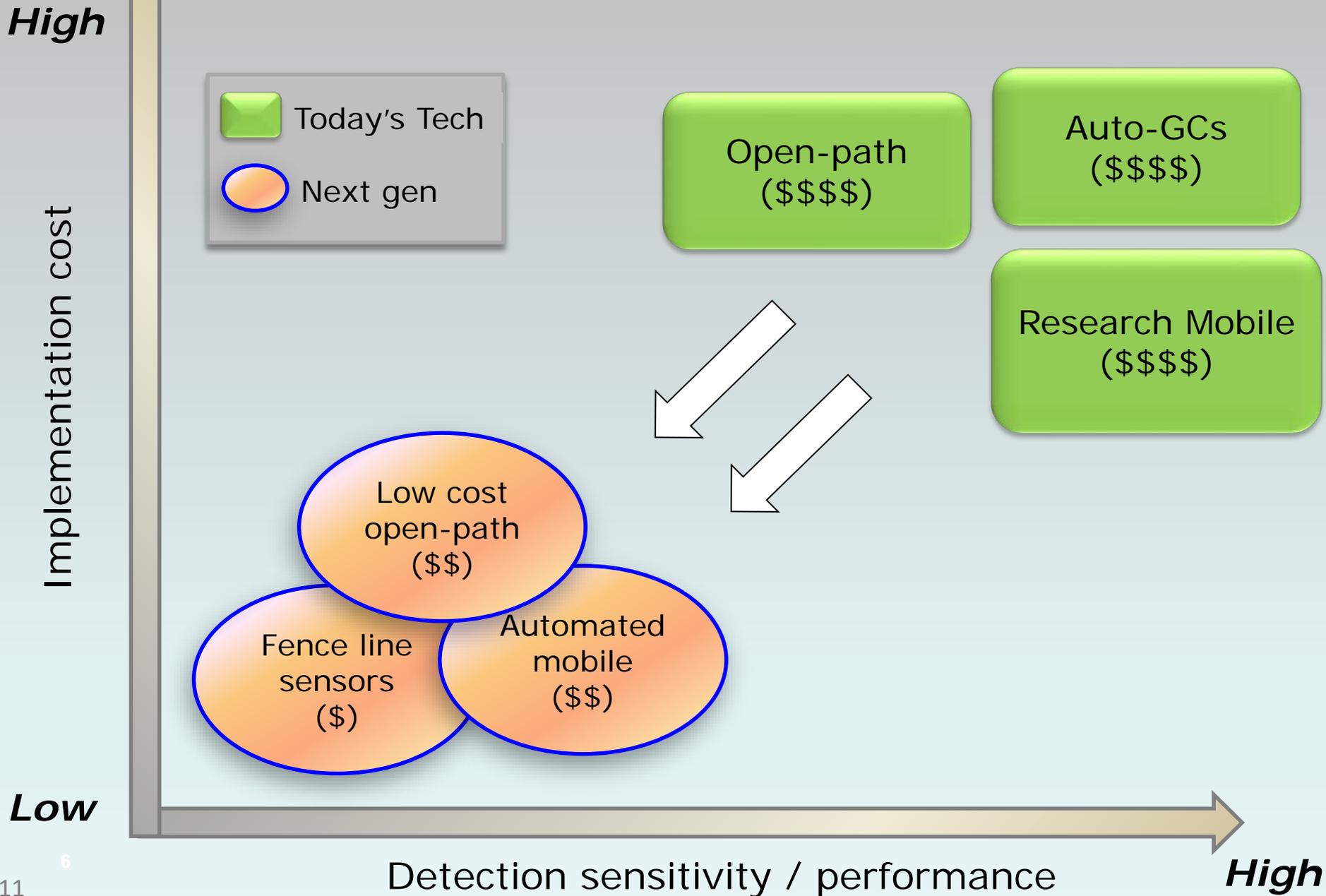


Direct source detection

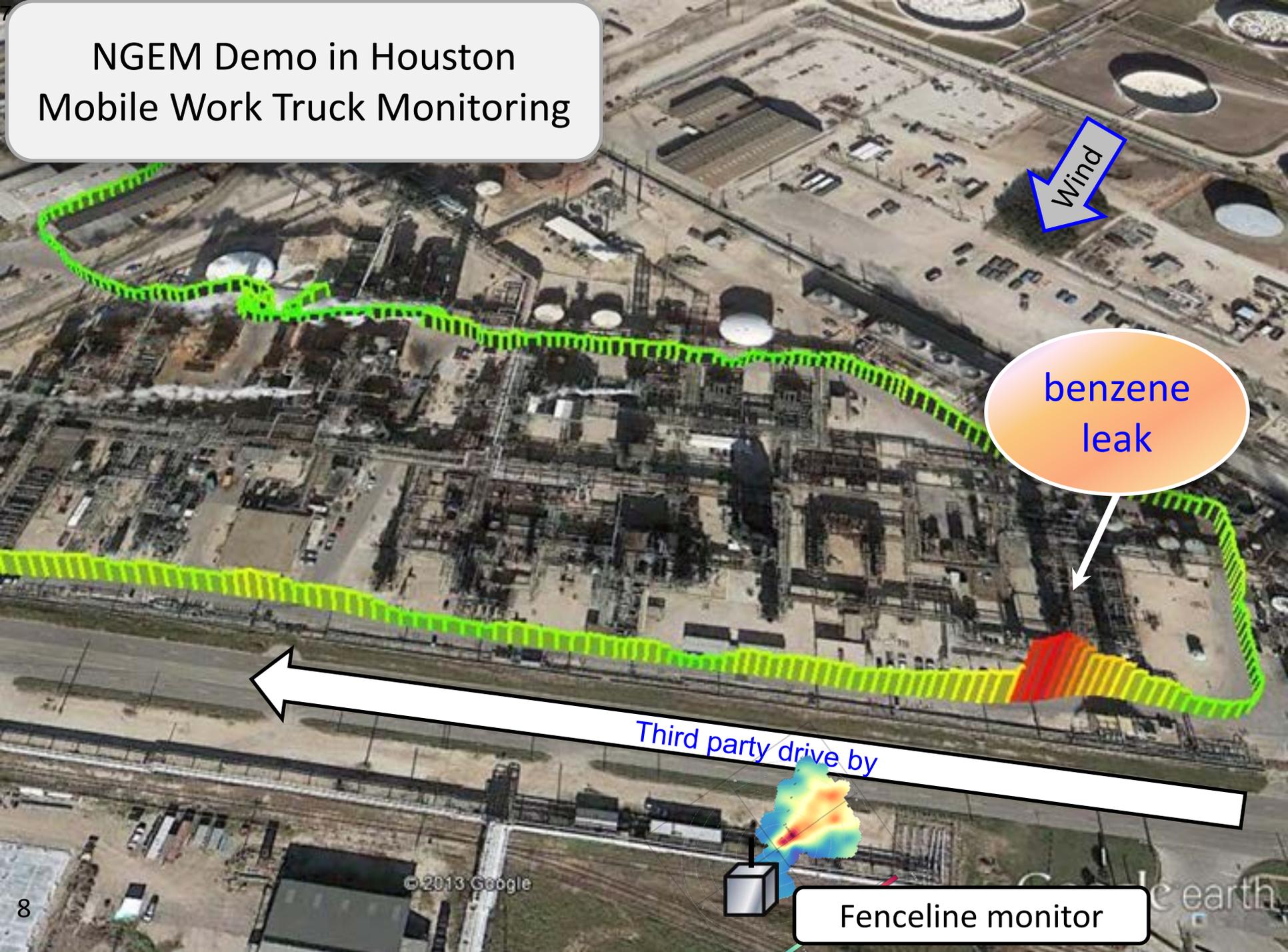


Emission

NGEM --- Lower cost is desired



NGEM Demo in Houston Mobile Work Truck Monitoring



benzene
leak

Wind

Third party drive by

Fenceline monitor



Rubbertown NGEM Demonstration Project

Planning Meetings, April 18-19, 2017

Who is part of this effort?

- A team of folks with EPA ORD, EPA Region 4, and LMAPCD
- Rubbertown industries might also participate

We are currently in the planning phases for the project. Community input is important!



Rubbertown NGEM Demonstration Project

Planning Meetings, April 18-19, 2017

What is the project focus area?

- NGEM measurements near Rubbertown facilities
- Select gas-phase air pollutants

Is this a community health or exposure study?

- No, this is a NGEM technology demonstration project that may inform some aspects of emissions from Rubbertown facilities

Is this an enforcement or compliance activity?

- No, this is a voluntary research effort
- We will provide information to facilities, communities, and publish



Rubbertown NGEM Demonstration Project

Planning Meetings, April 18-19, 2017

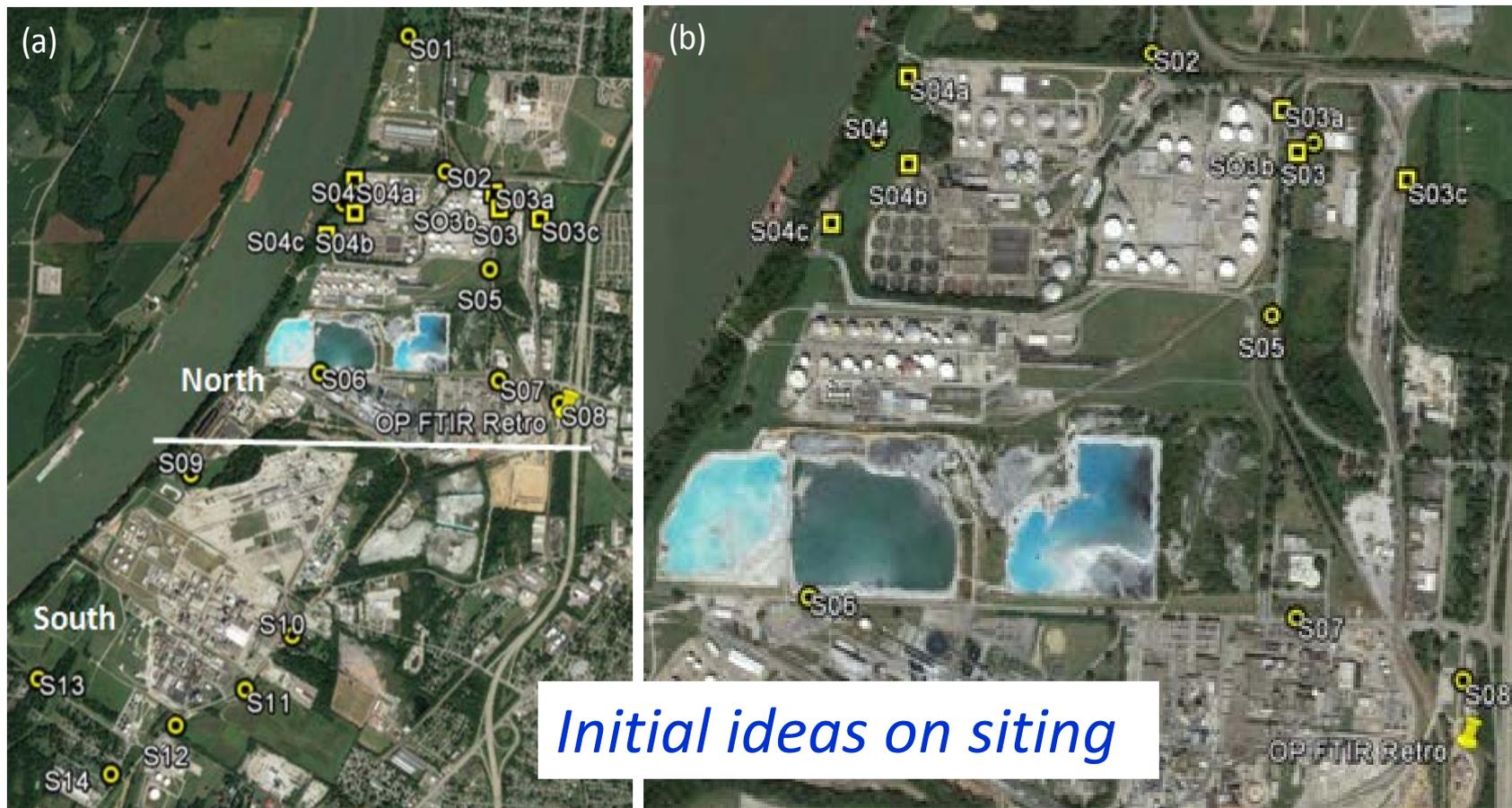
What do we want to accomplish?

- Work together to try new NGEM approaches in Rubbertown
- Learn about new methods and air pollution sources (research)
- Advance NGEM science
- Understand some issues, document improvements (as possible)

When is this project going to happen?

- Target field work Aug. 2017- Sept. 2018 (pending resources)
- Full data reduction and publishing through 2019

Where will measurements be made?



Benefits of NGEM Research

- Improve source understanding
- Reduce local and regional air shed impacts
- Create safer working environments
- Reduce product loss
- Develop more efficient work practices
- Improve transparency and community relations
- Prepare for the future management strategies



Rubbertown NGEM Demonstration Project

Planning Meetings, April 18-19, 2017

How information will be shared?

- Preliminary data will be shared in periodic presentations (Rubbertown CAC is one possibility)
- In-process data may be shared with industry (to help assess and fix emissions if found)
- Results will be published in journals and conferences
- Communications will likely be quarterly with primary publications 6 to 10 months after completion of field efforts (mid-2019).

Quality assurance project plan (QAPP) will describe the effort

These meetings help determine the optimal approach

Best use of technologies with available resources

NRMRL QUALITY ASSURANCE PROJECT PLAN

Office of Research and Development (ORD)
National Risk Management Research Laboratory (NRMRL)
Air Pollution Prevention and Control Division (APPCD)
Emissions Characterization and Prevention Branch (ECPB)

Rubbertown Next Generation Emission Measurement Demonstration Project

QA Category: B / Measurement

Extramural Research

G-APPCD-0021097-EP-2-0

Revision Number: 0

March 30, 2017

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