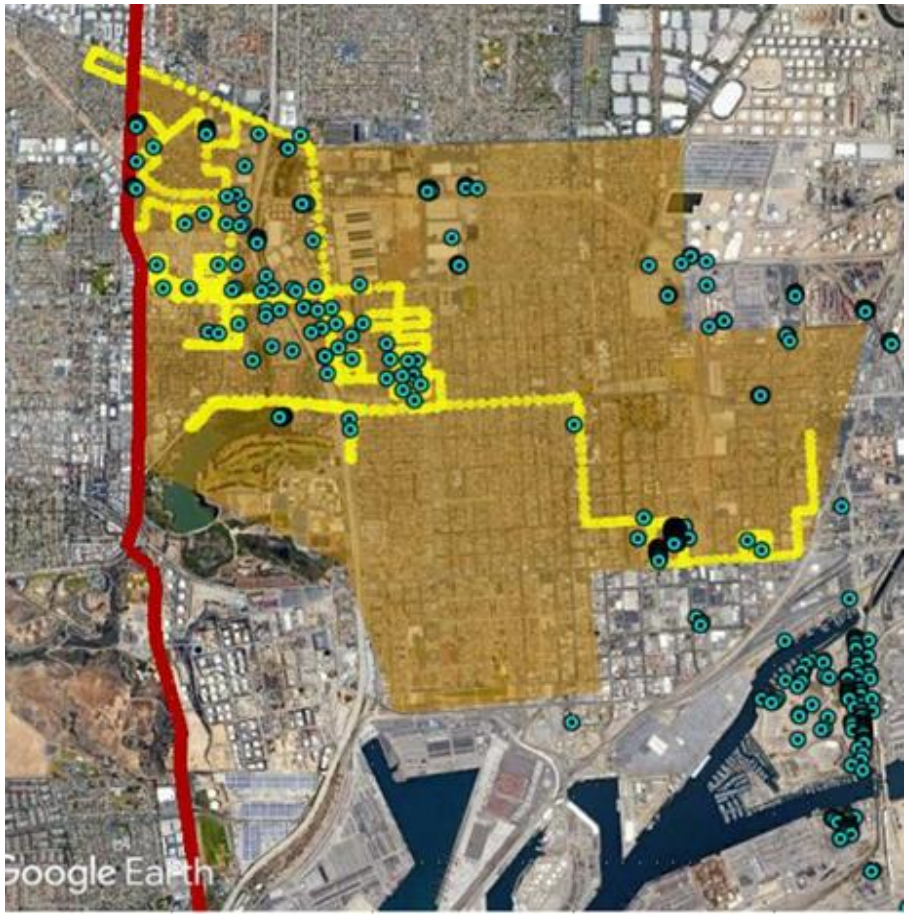
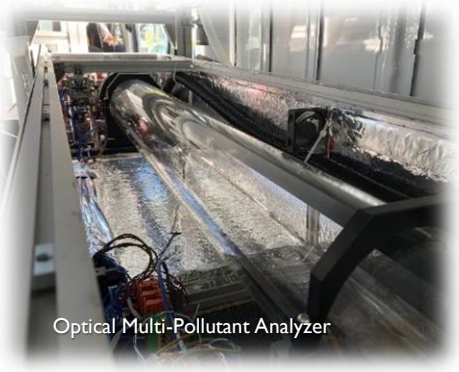
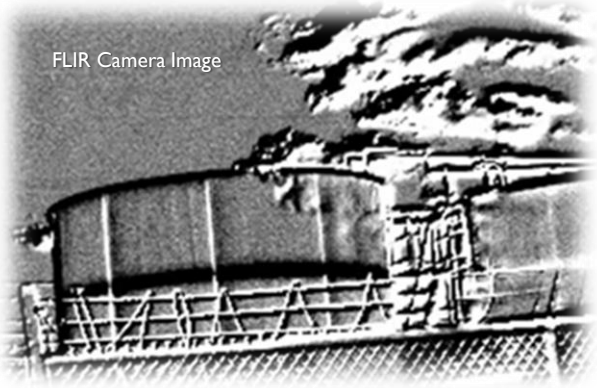



Optical Multi-Pollutant Analyzer

Toxic Vapor Analyzer

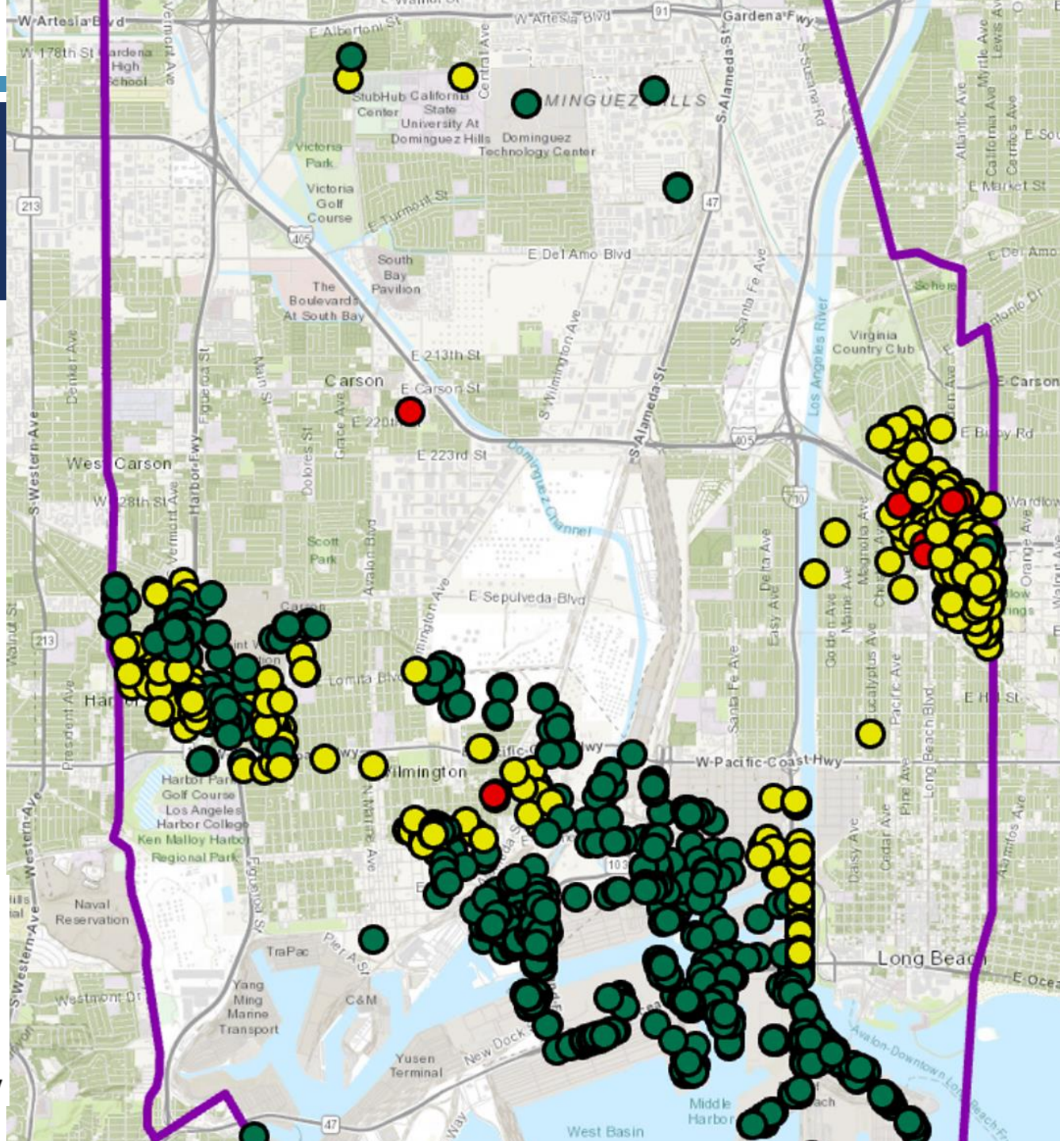

FLIR Camera Image

ORS Mobile Laboratory

AIR MONITORING NEAR OIL WELLS IN AB 617 COMMUNITIES

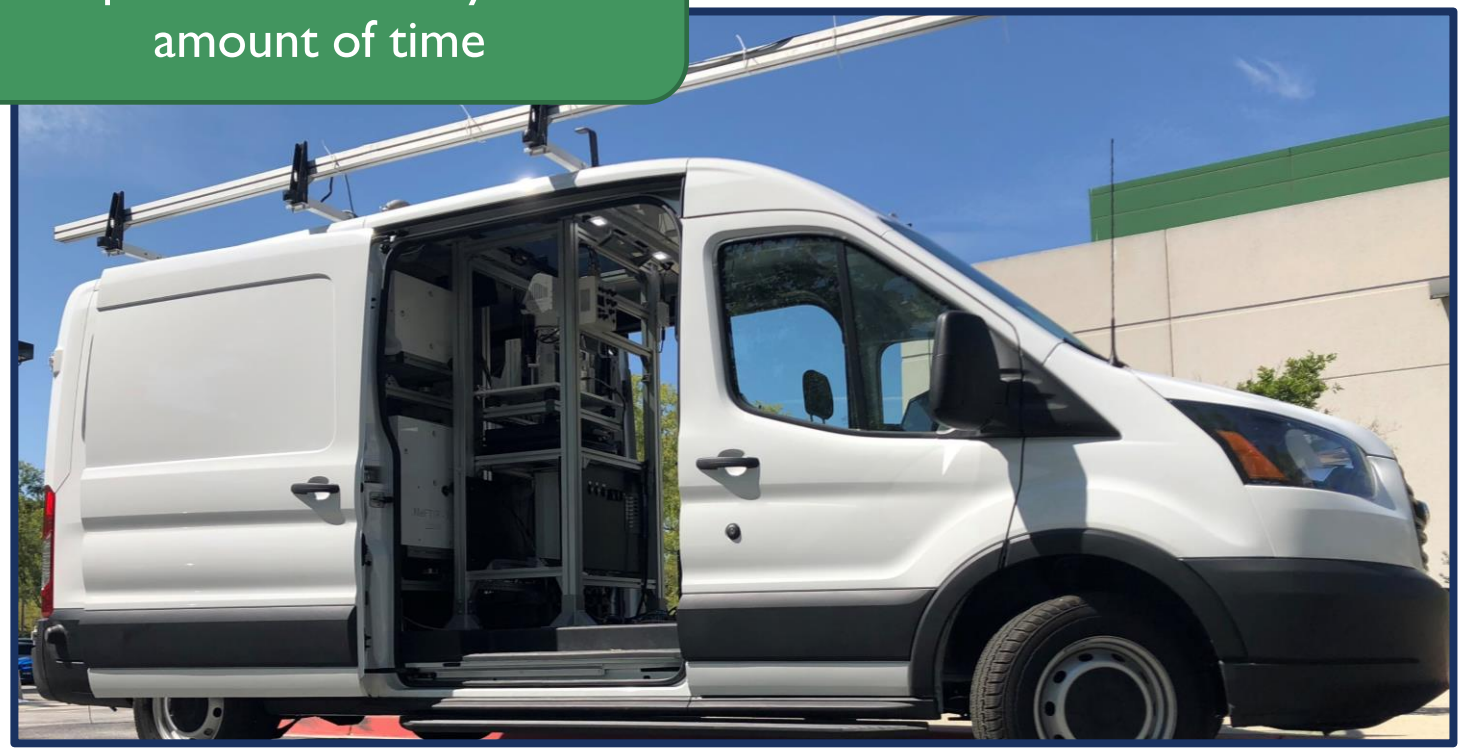
South Coast AQMD

OIL WELLS IN WILMINGTON CARSON WEST LONG BEACH COMMUNITY



MONITORING EQUIPMENT
OPTICAL REMOTE SENSING (ORS) MOBILE LABORATORY

Multiple wells / facilities can be sampled in a relatively short amount of time



Air pollutants measured

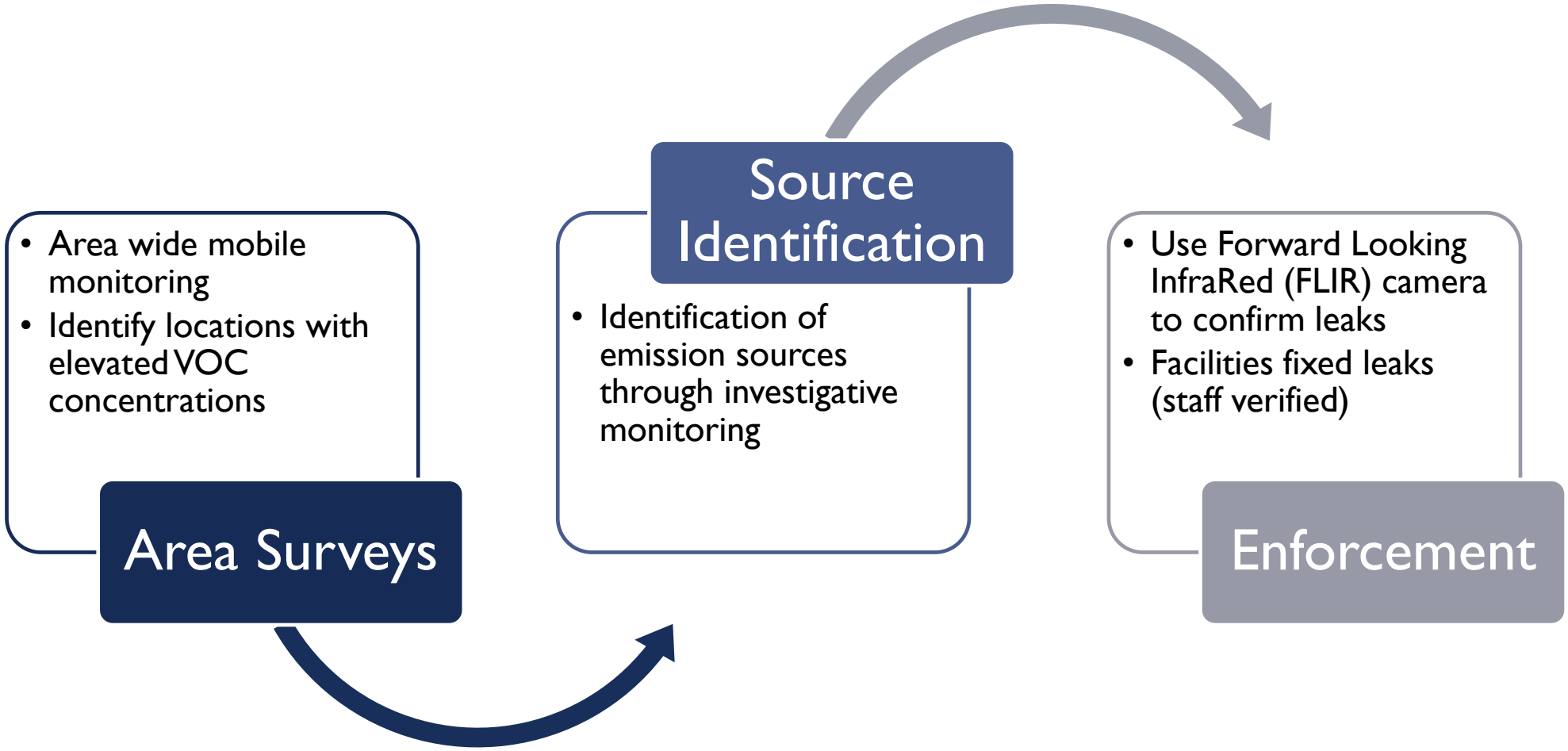
- Total Alkanes, Methane, Benzene, Toluene, Ethylbenzene, Xylenes, Styrene, other

Instrumentation

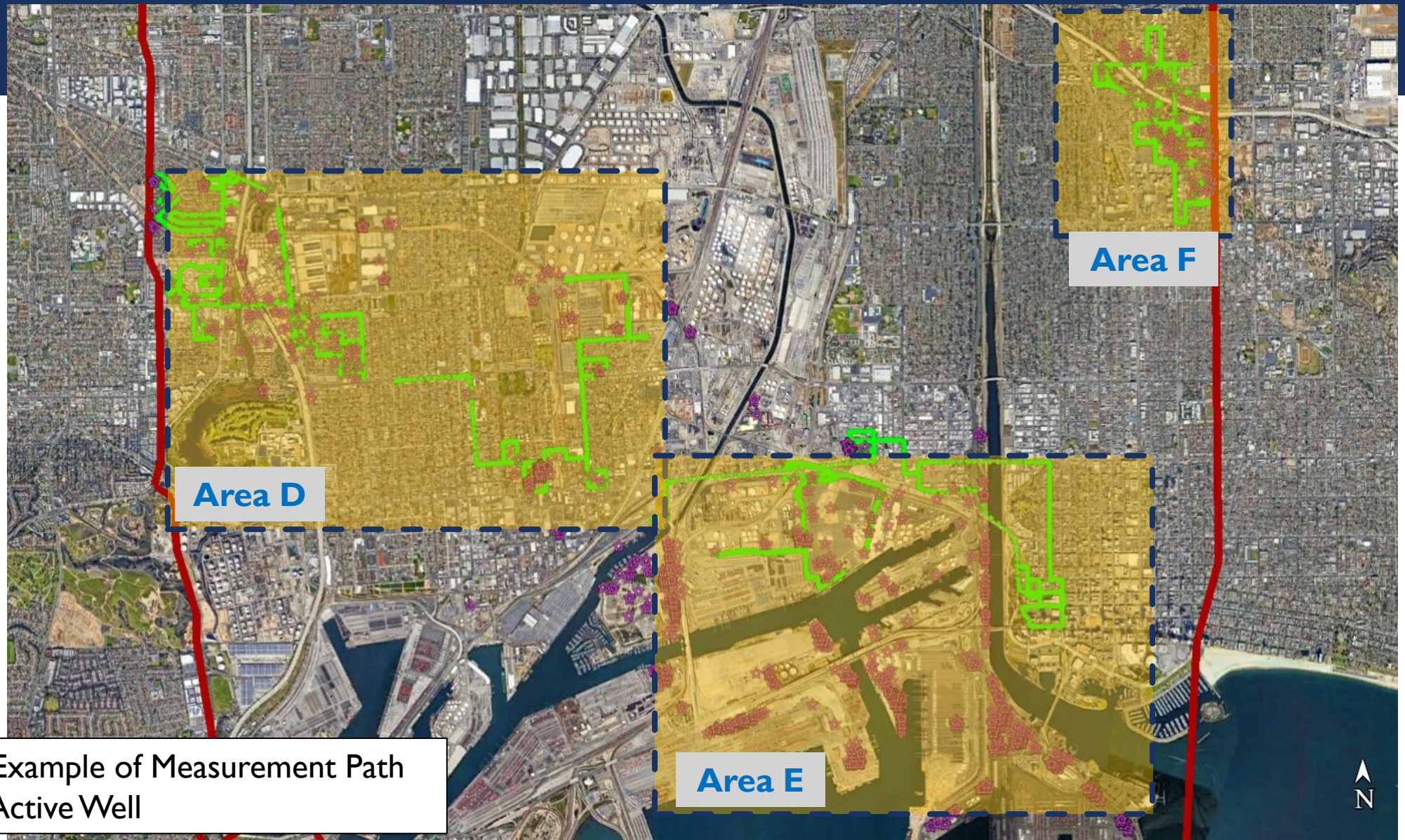
- Differential Optical Absorption Spectroscopy (DOAS)
- Fourier-Transform InfraRed (FTIR) Spectroscopy
- Solar Occultation Flux (SOF)
- Zenith-looking DOAS

Measurement frequency ~ 5 – 10 sec.

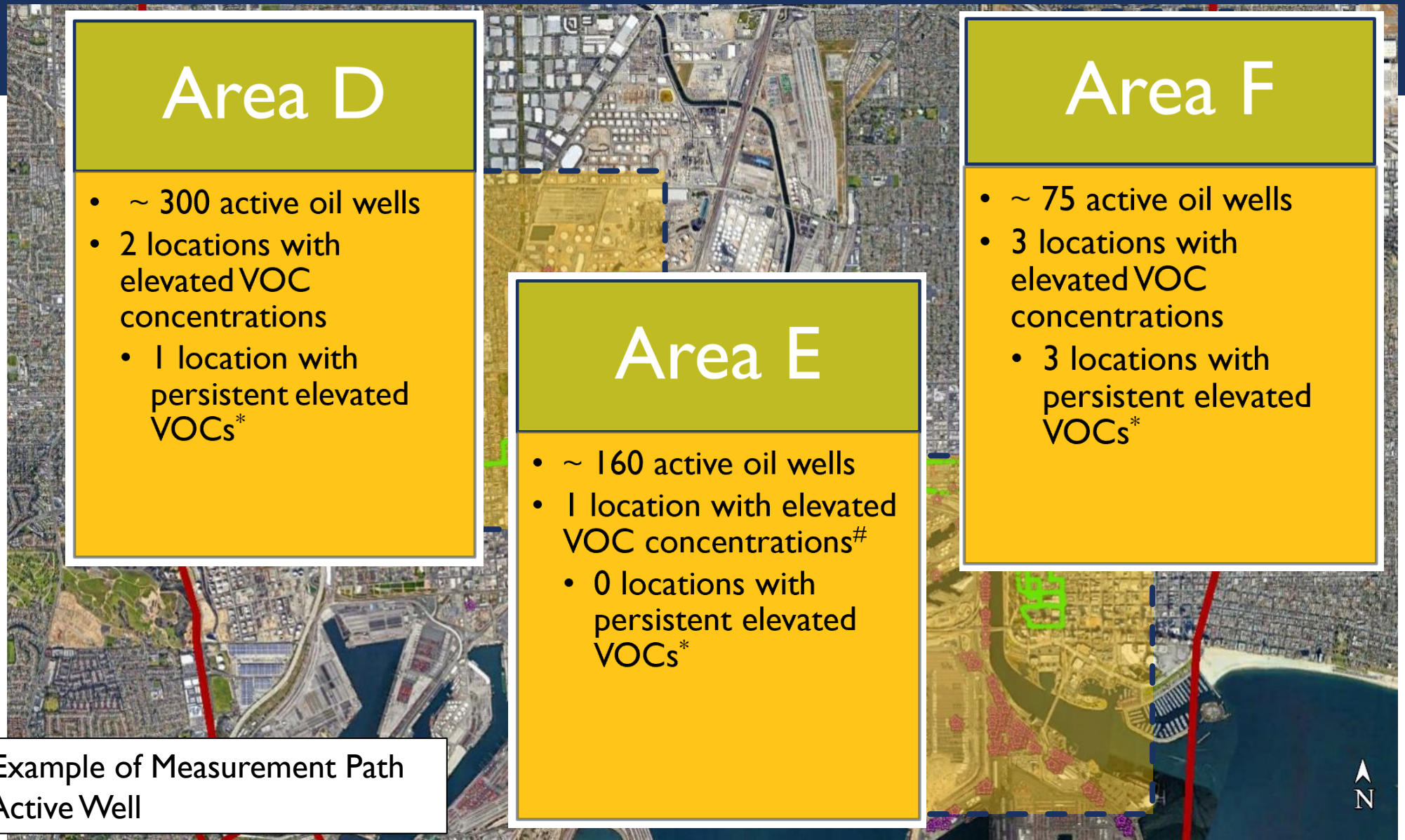
AIR MONITORING ACTIVITIES NEAR OIL WELLS



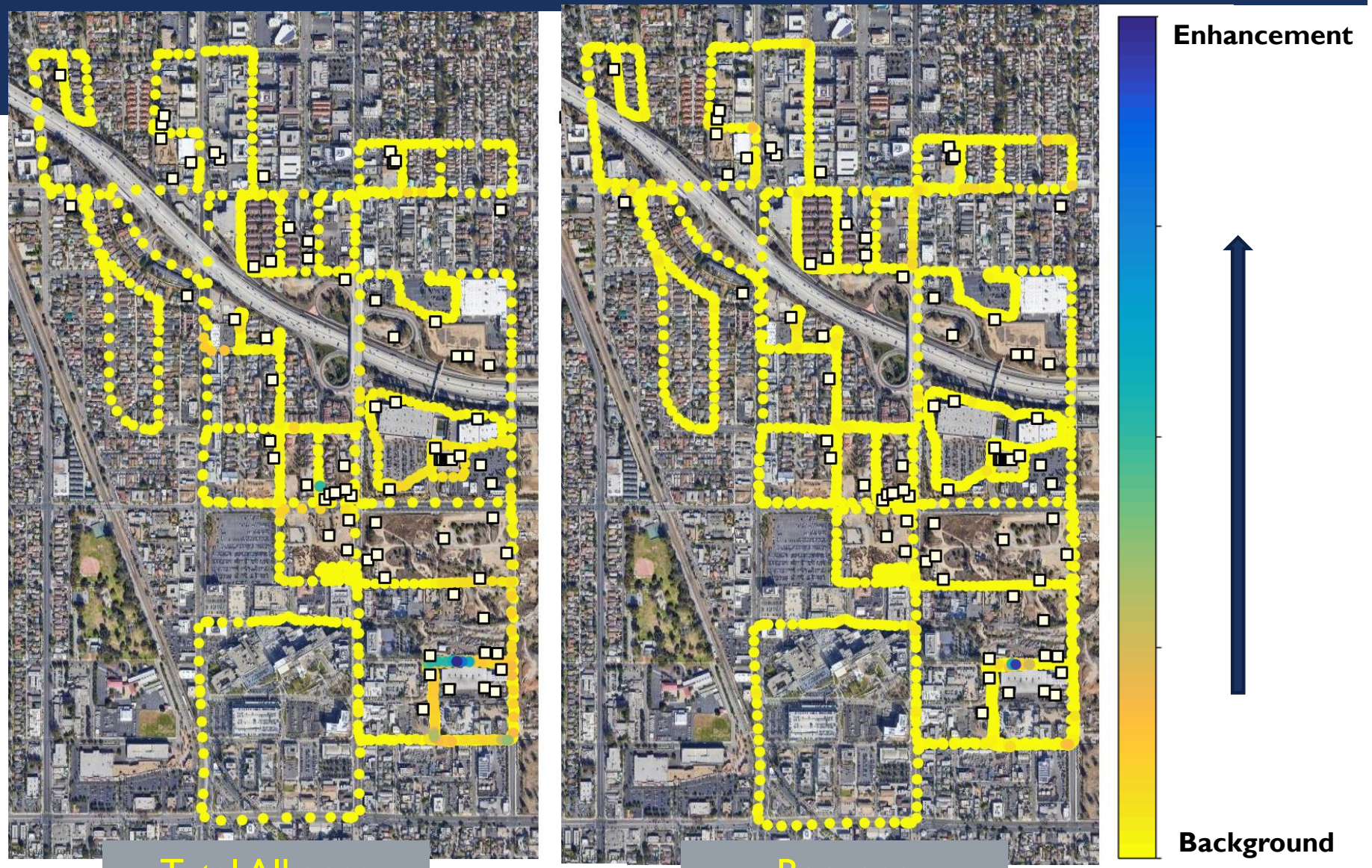
MOBILE AIR MONITORING NEAR OIL WELLS IN THE COMMUNITY



SUMMARY OF OVER 2 YEARS OF MEASUREMENTS NEAR OIL WELLS

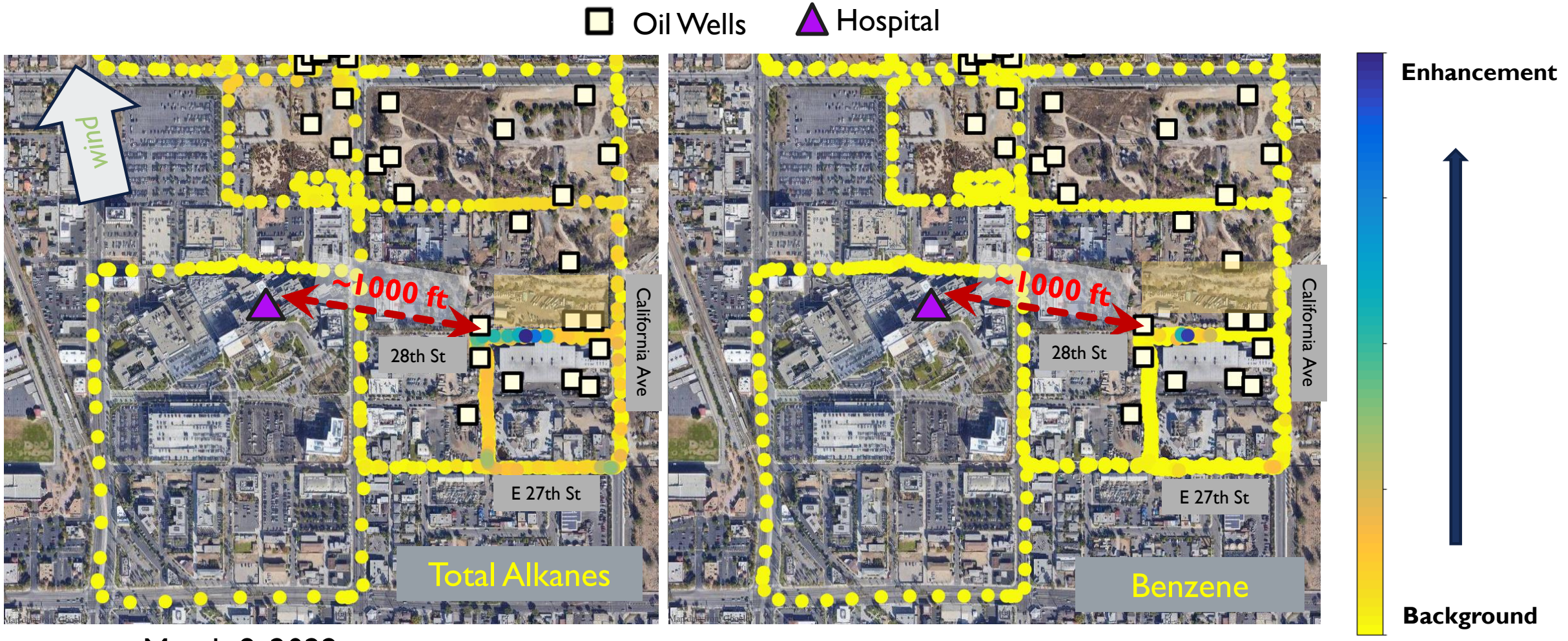


EXAMPLE OF MOBILE AREA AIR QUALITY SURVEY



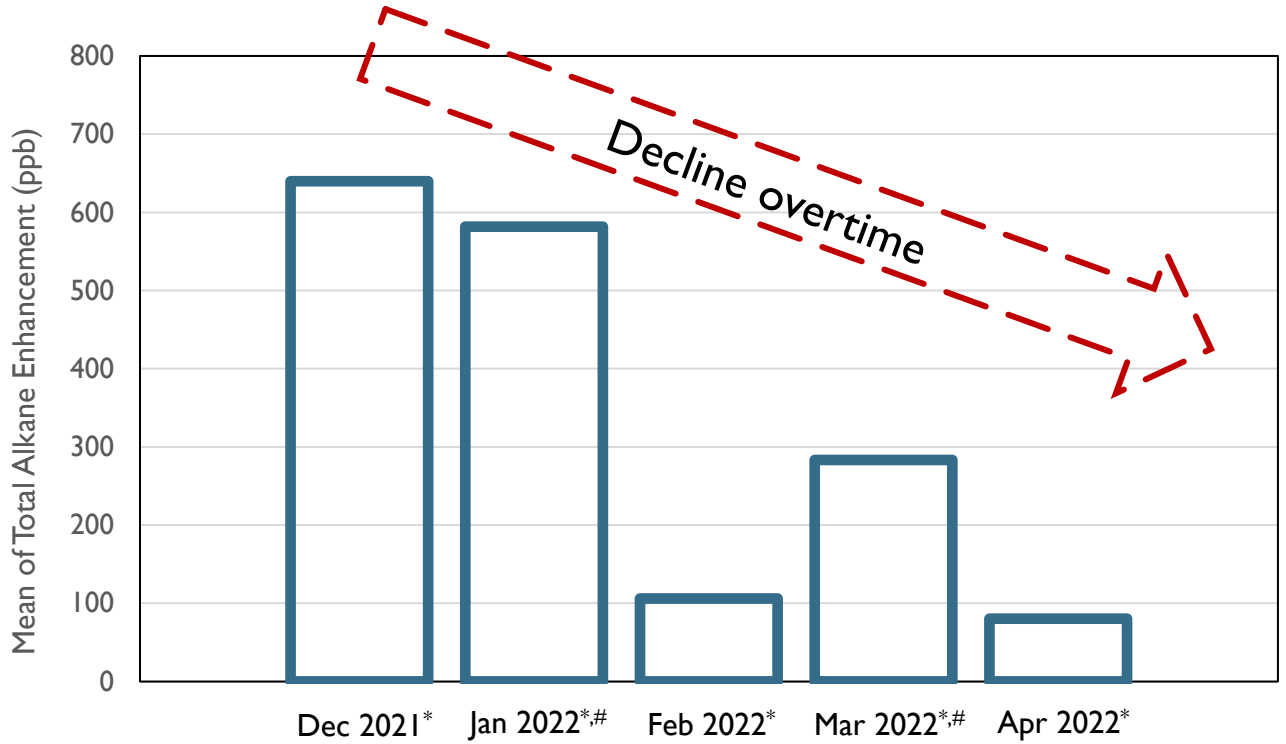
March 9, 2022

ASSESSMENT OF COMMUNITY IMPACT



March 9, 2022

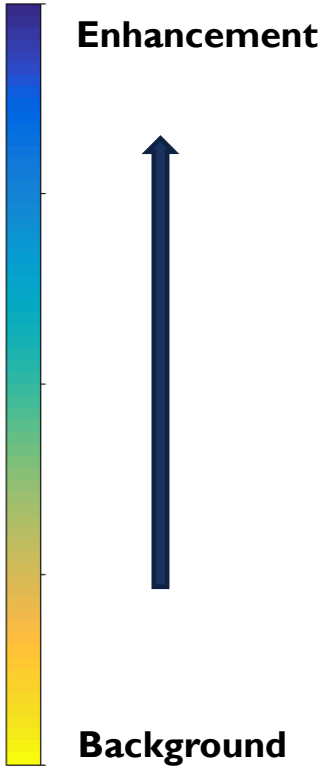
TRACKING PERSISTENT ELEVATED CONCENTRATIONS OVERTIME



Mean concentration in the area with persistent elevated VOCs

*Mean concentrations calculated based on at least 300 individual instantaneous measurements near the facility
#Emissions detected in January and March 2022 were due to routine maintenance activities at the site

EXAMPLE OF LEAK IDENTIFICATION



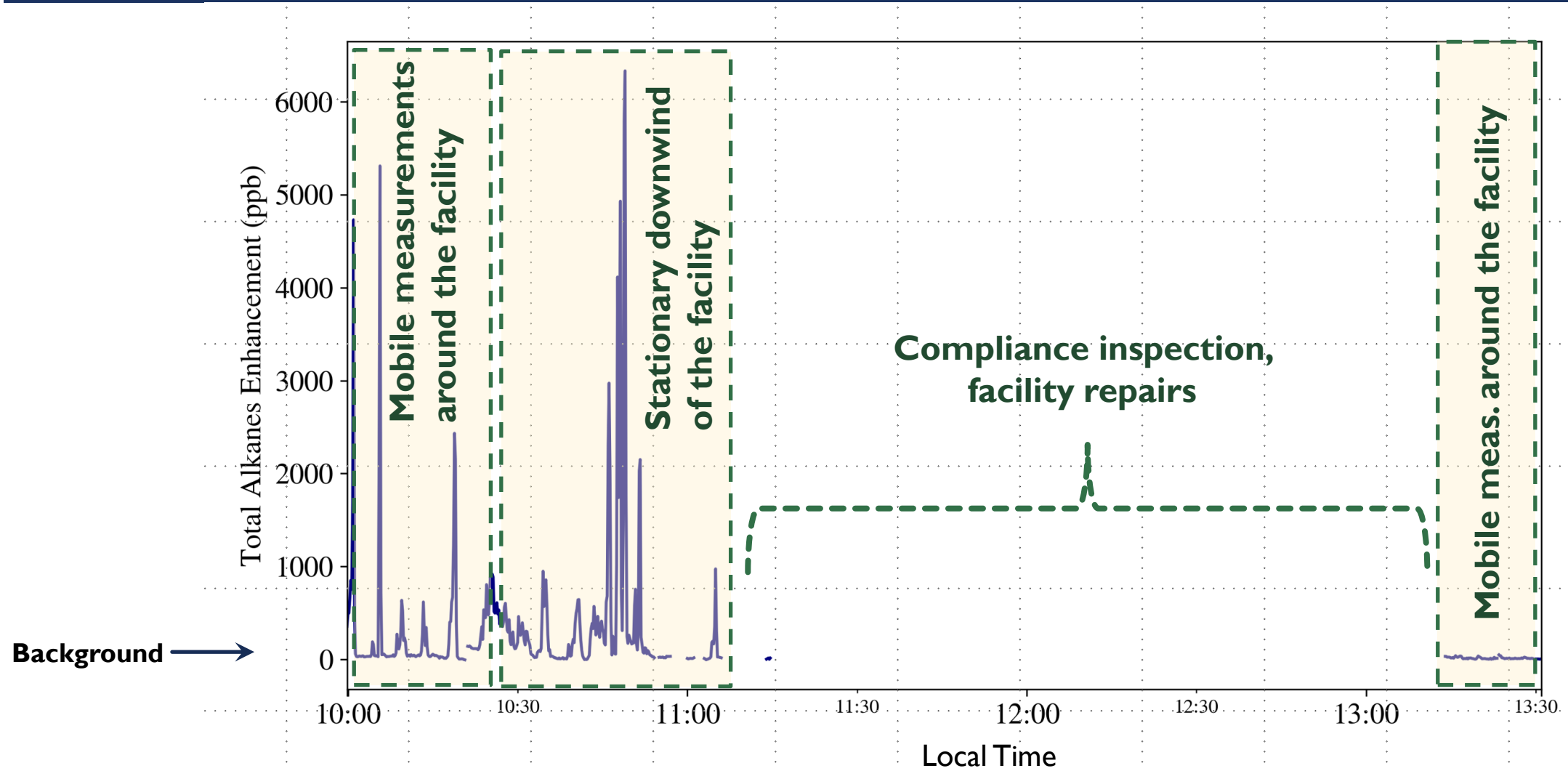
Total Alkanes

Oil Wells

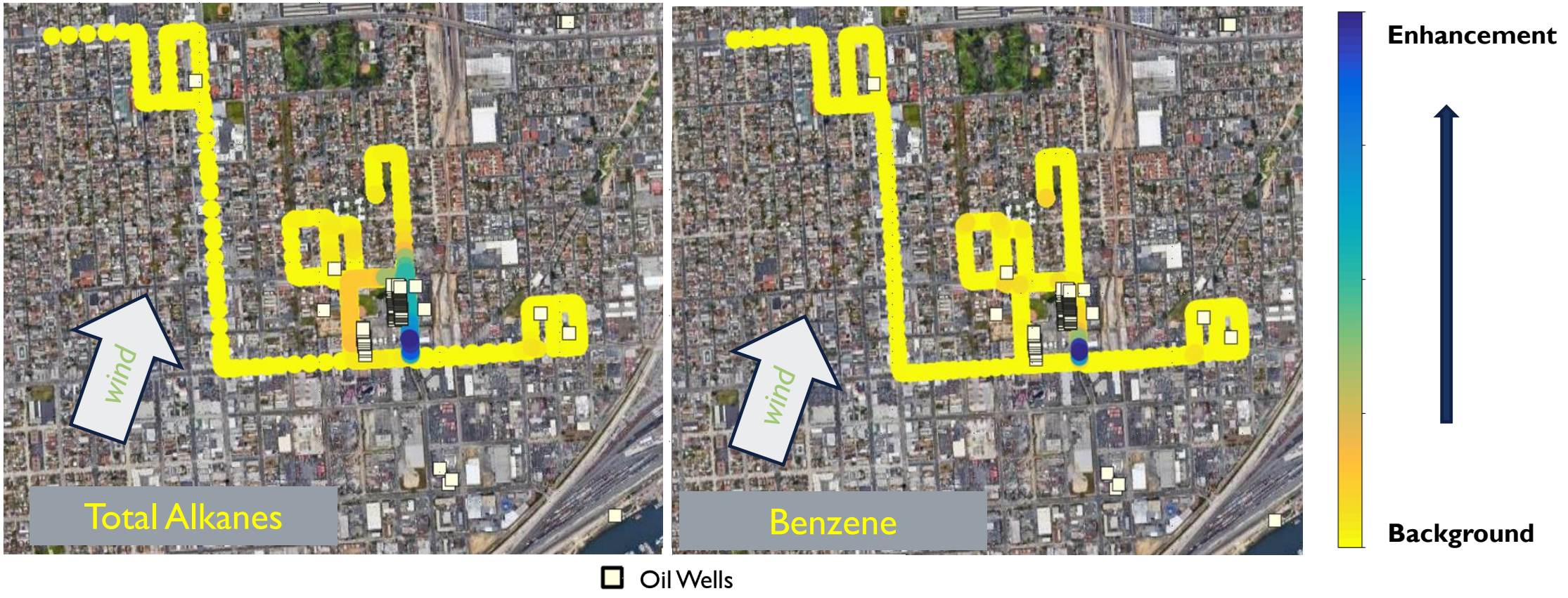
Benzene

May 3, 2022

EXAMPLE OF LEAK IDENTIFICATION



ASSESSMENT OF COMMUNITY IMPACT



EMISSION IDENTIFICATION AND INSPECTION TOOLS

Forward Looking InfraRed Camera (FLIR)

Toxic Vapor Analyzer (TVA)

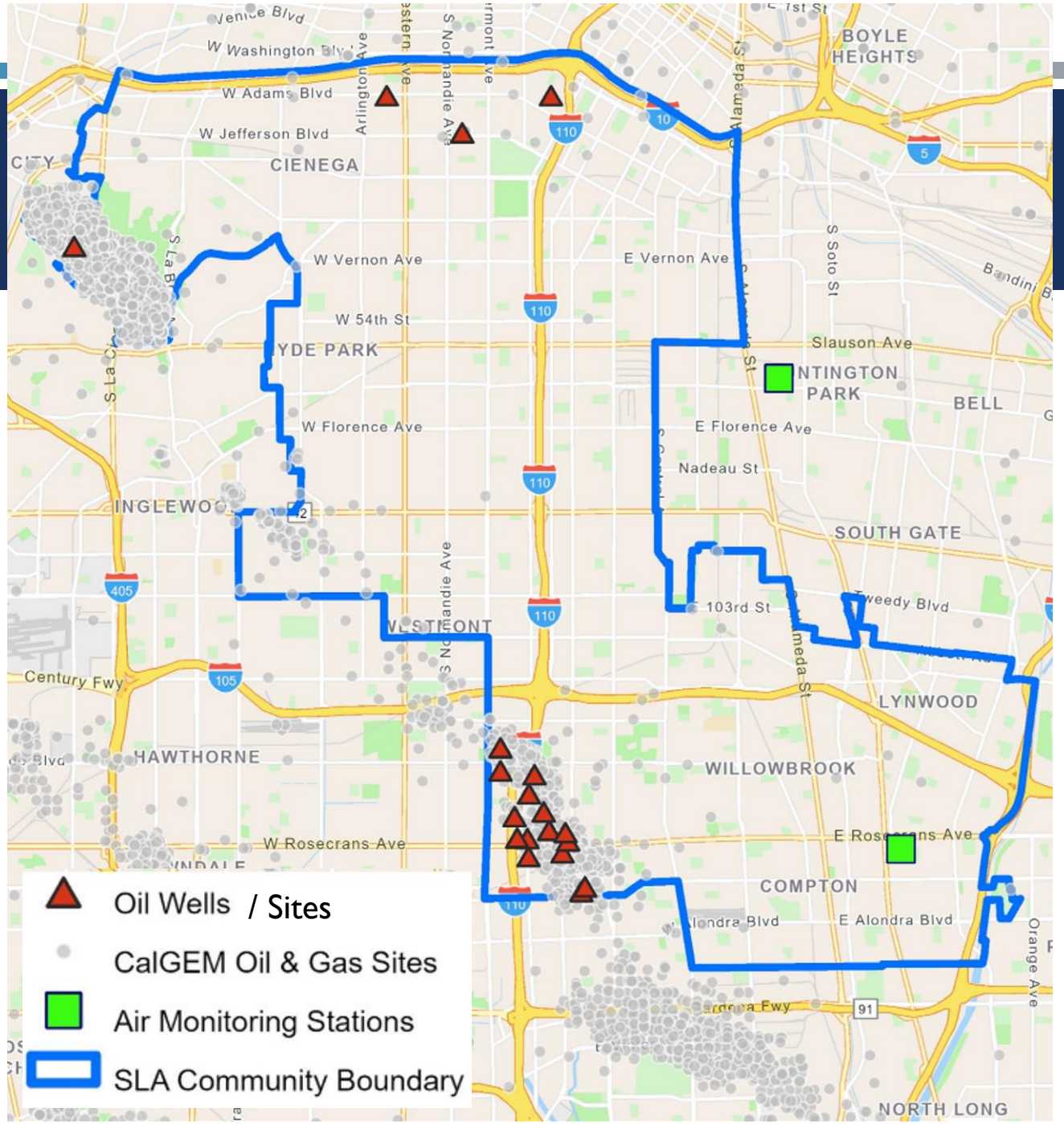
Verification by TVA

Picture of the compressor

FLIR video of unwanted emissions from a storage tank (09/19/2019)

FLIR video of unwanted emissions from a compressor (02/01/2022)

OIL WELLS IN SOUTH LOS ANGELES COMMUNITY



SUMMARY

- Mobile platforms are effective tools to survey numerous sources / facilities and identify areas of elevated pollutant concentrations in a relatively short amount of time
- Elevated VOC readings near oil extraction operations often intermittent and confined to areas adjacent to the facility
- Mobile monitoring is conducted in coordination with facility inspections
- Preliminary mobile monitoring in SLA community near Jefferson, Murphy and Allenco sites conducted in April 2022
- Mobile monitoring in all portions of SLA community adjacent to oil and gas operations will be conducted later in 2022 as part of AB617 implementation

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