

Magellan Midstream Partners Tank Fire

June 2008

Katy Miley
Federal On-Scene Coordinator
U.S. EPA
Region 7

One Stormy Night in Kansas City

- 7:30 p.m., June 3, 2008
- Magellan terminal in Kansas City, KS
- Lightning strike caused large fire at a storage tank containing 1.2 million gallons of unleaded gasoline
- Smoke plume visible across Kansas City metro
- Intense public interest and alarm
- Required RP, local responder and EPA coordination
- Media information at a premium

Presentation Objectives

- Discuss the EPA response timeline
 - Transition to RP lead
- Review monitoring data
- Overview data assessment
- Discuss public information challenges

Response Timeline June 3rd

- 7:30 pm - EPA Region 7 spill line notified
- 8:30 pm - EPA OSC and START onsite
- 9:00 pm - Magellan local on-call environmental contractors onsite
- 9:45 pm - EPA led planning meeting on air monitoring process, locations, and teams
- Magellan FRP maps used
 - Monitoring teams
 - EPA OSCs/EPA START/RP Contractors
- 11:00 pm - Air monitoring began









Response Timeline June 4th

- 4:00 am - RP's large scale monitoring response contractor on-site
- 5:00 am
 - Initial monitoring data consolidated
 - Air monitoring transitioning to RP
- 7:00 am - Joint EPA/FD/RP live feed television press conference
- 9:00 am - EPA START demobilized, new OSC on-site for second shift

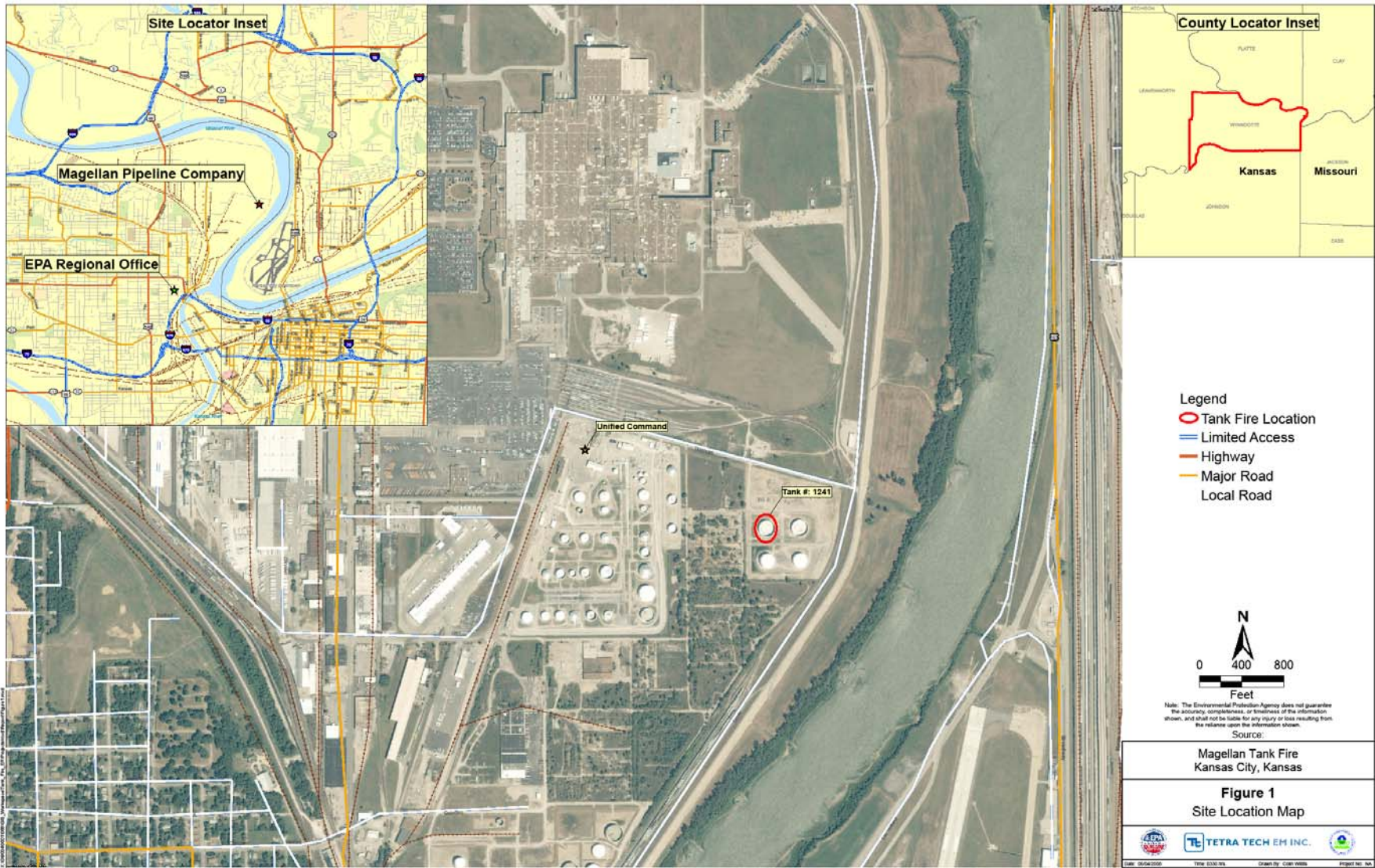


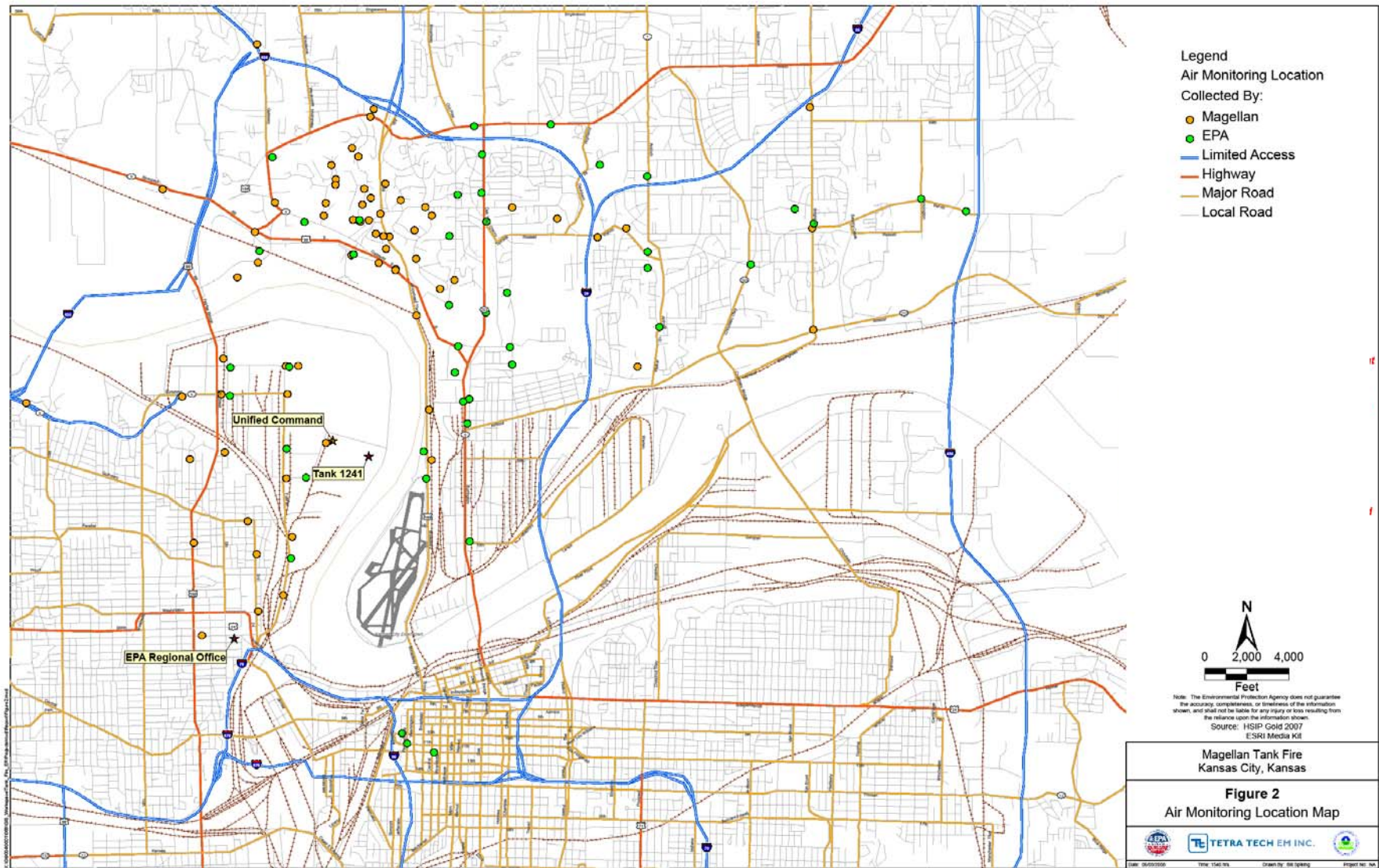




Real-Time Air Monitoring

- MultiRae Plus multi-gas monitor with PID
 - VOCs
 - CO
 - H₂S
 - O₂
 - LEL
- MIE DataRAM 4
 - PM 10
 - PM 2.5
- Draeger Chip
 - benzene





Monitoring Results - First 24 Hours

- Benzene: Non Detect
- CO: Non Detect
- H₂S: Non Detect
- LEL: Non Detect
- O₂: 20-20.9 %
- VOC: 0-3.7 ppm
- PM 10: 10-385 ug/m³
- PM 2.5: 5.2-169.2 ug/m³

What Do the VOC Results Mean???

- VOC results (0-3.7 ppm)
 - Compared with BTEX 8 hour AEGLs
 - Benzene: 9 ppm
 - Toluene: 200 ppm
 - Ethyl Benzene: 3 ppm
 - Xylene: 130 ppm
- Region 7 currently uses benzene (carcinogen) for VOC comparison
- Additional surrogates for petroleum VOCs are being assessed
- 1/140 results exceeded any BTEX AEGL
 - 3.7 ppm, 4 hours after fire started, not repeated

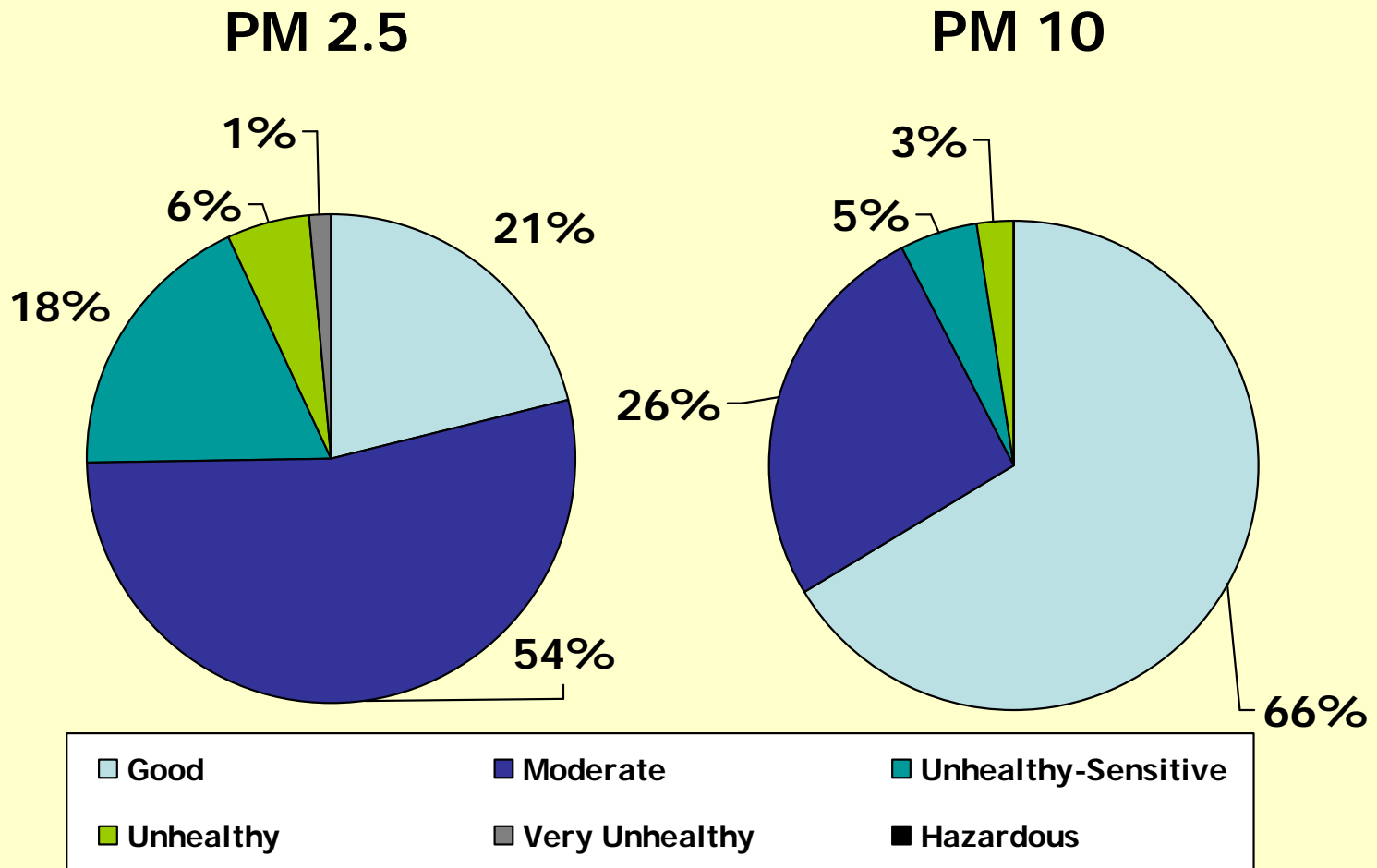
What do the PM Results Mean?

- PM 2.5: Smaller inhalable particulates (≤ 2.5 μm)
- PM 10: Larger fraction particulates (≤ 10 μm)
- EPA Air Quality Index (AQI) assigns category values for 24 hour exposures
 - Good
 - Moderate
 - Unhealthy-Sensitive Groups
 - Unhealthy
 - Very Unhealthy
 - Hazardous

What do the PM Numbers Mean?

AQI	PM 2.5 (ug/m ³)	Number of PM 2.5 Data Points	PM 10 (ug/m ³)	Number of PM 10 Data Points
Good	0-15.4	15	0-54	53
Moderate	15.5-40.4	38	55-154	21
Unhealthy- Sensitive	40.5-65.4	13	155-254	4
Unhealthy	65.5-150.4	4	255-354	2
V. Unhealthy	150.5- 250.4	1	355-424	
Hazardous	>250.5		>425	

Air Quality Index Comparisons



Response Timeline June 5th

- Fire still smoldering
- Minimal smoke plume
- RP contractor continued monitoring and sampling
- Fire declared out at 10:30 pm
- Fire burned >48 hours





From EPA to RP Lead

- Initial 12 hours
 - EPA lead air monitoring with RP contractors assisting
 - Air monitoring followed smoke plume and northern arc
 - Benzene, CO, H₂S, LEL, O₂, PM10, PM2.5, VOCs
 - Real-time monitoring data used at press conference
- Final two days
 - Transition from EPA lead to RP lead during the morning of June 4
 - RP DQO's and sampling protocols submitted to EPA
 - Monitoring and sampling data submitted to EPA

Continued Monitoring and Sampling

- RP contractor conducted real time monitoring, air sample collection, and wipe sampling
 - Air monitoring in smoke plume and arc north of fire
 - Mini can sampling of set locations around site perimeter and north
 - PAHs, aldehydes, benzene, VOCs
 - Analytical results were consistent with monitoring data
 - Wipe samples of playground equipment for PAHs
 - ND
- Data Summary
 - > 48 hours of monitoring and sampling
 - Some health based risk levels were exceeded for particulates, VOCs
 - Many elevated readings were directly in plume, near fire
 - Elevated readings were not sustained

Response Timeline June 6

- The aftermath
- RP contractor ceased sample collection and monitoring at ~ 3:30 pm
- RP began assessing damage
- EPA OSC demobilized

















06.03.2008 21:06

The Media

- Joint EPA/FD/RP live feed television press conference
 - 7:00 am June 4 ~ 12 hours after the fire started
 - EPA reported on real time data collection
 - Field data from START, EPA OSCs, RP
 - Very little time to collate and assess data
 - Minimal access to regional air program/toxicologists for advice in the middle of the night
 - Necessary to simplify discussion of data and clarify health risks to ensure message to public

OSC Challenges

- Lack of sleep
- Rapid turnaround of field monitoring data
- Need for support personnel to collate data and assist with interpretation
- Need for a consistent message and open communication with RP and local responders
- Importance of field personnel knowing levels of concern when collecting monitoring data
- The press



