



# 2018 U.S. EPA International Decontamination R&D Conference



## *Wide area Atmospheric Deposition of Asbestos Site-Specific Scenario (River Street Warehouse Asbestos Fire Emergency Response)*

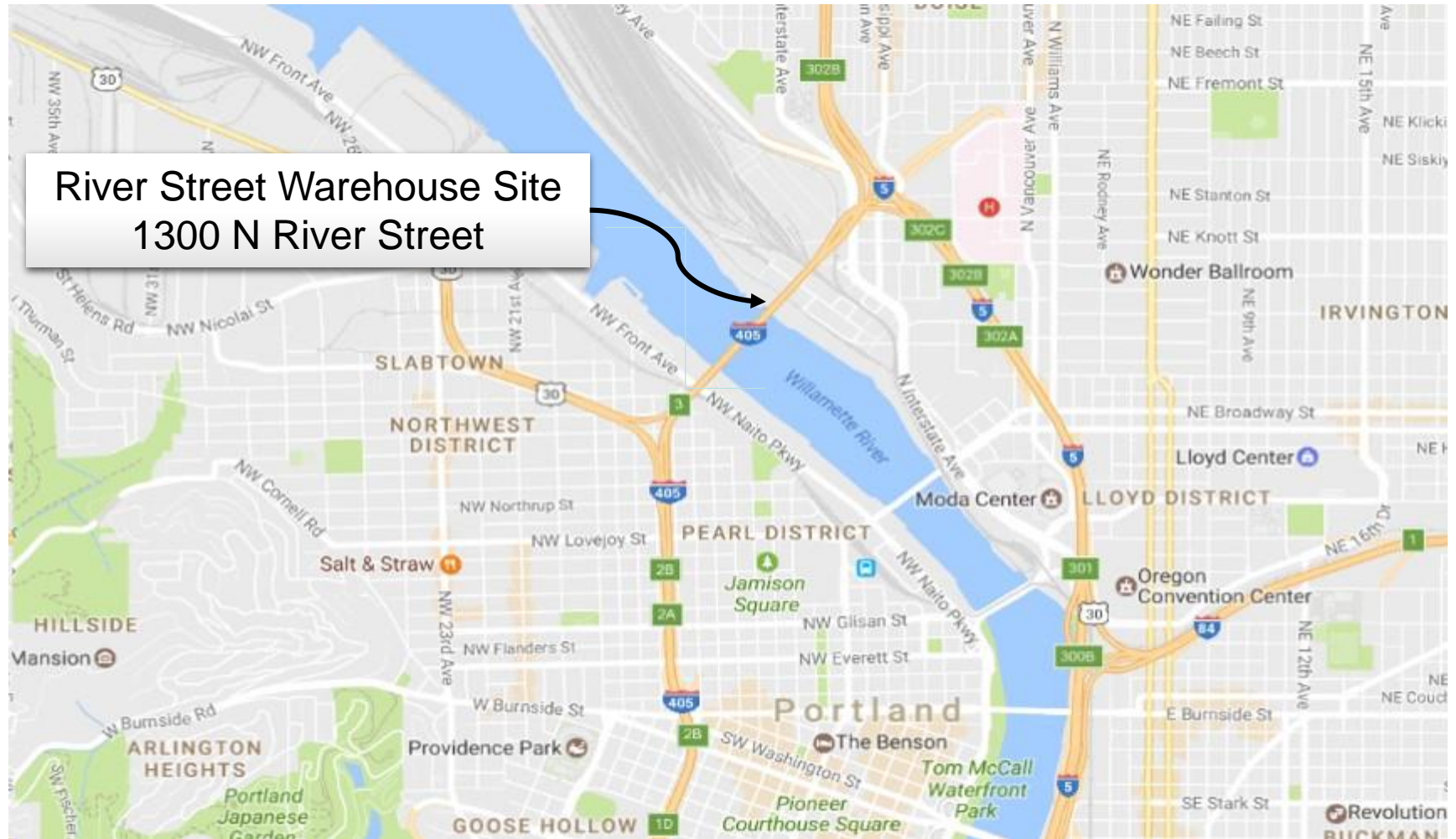
**Randy B. Nattis**  
**Federal On Scene Coordinator**

# Background

**3-Alarm Fire at 10:00 PM Sunday May 14, 2017**



# Background



# Background

Former  
Montgomery Dock  
#2 & Warehouse

Built in 1898,  
253,000 Sq. Ft.,  
900 Ft. Dock



# Background



**2018 U.S. EPA International Decontamination R&D Conference**

# Background



# ODEQ

- On May 15, 2017 (Monday) at 1100, ODEQ responds as suspect Asbestos Containing Material (ACM) is found at the site and down wind from the site



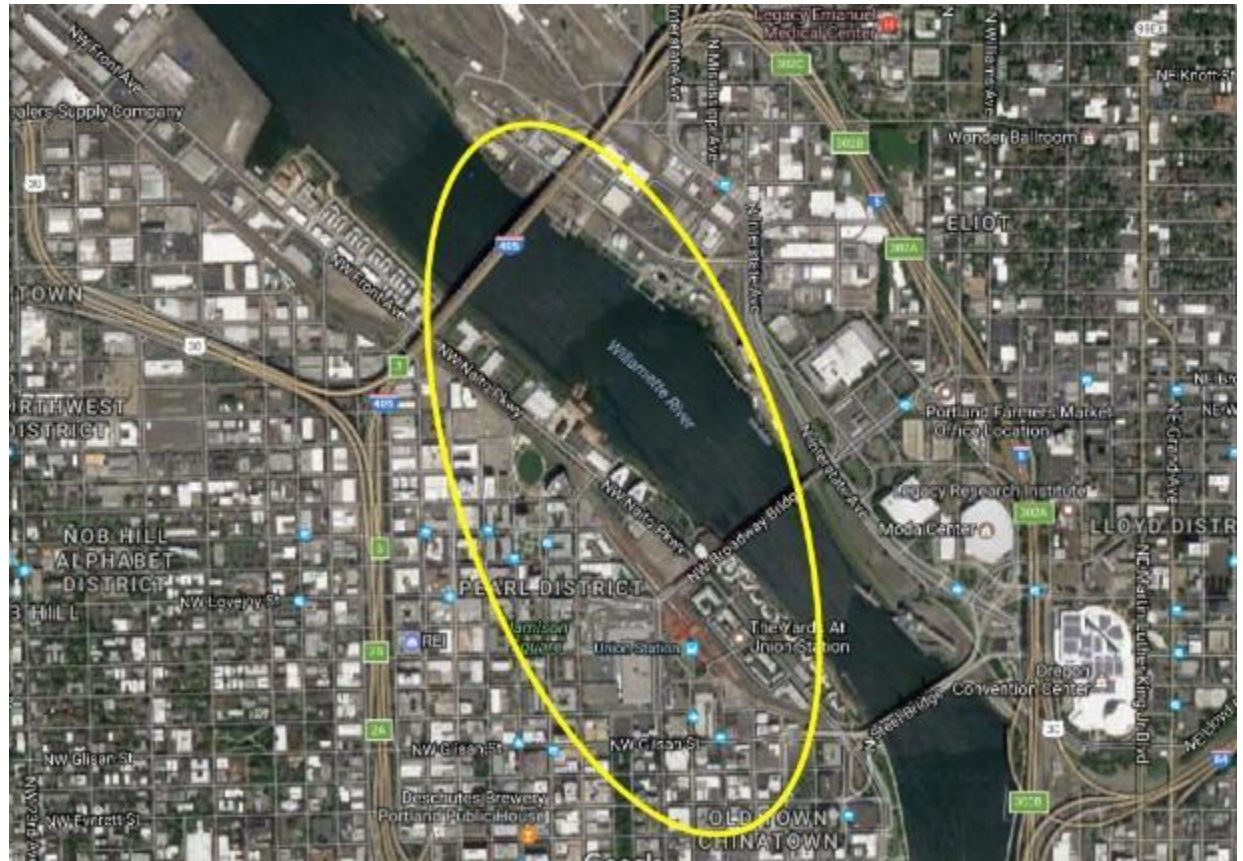




# ODEQ

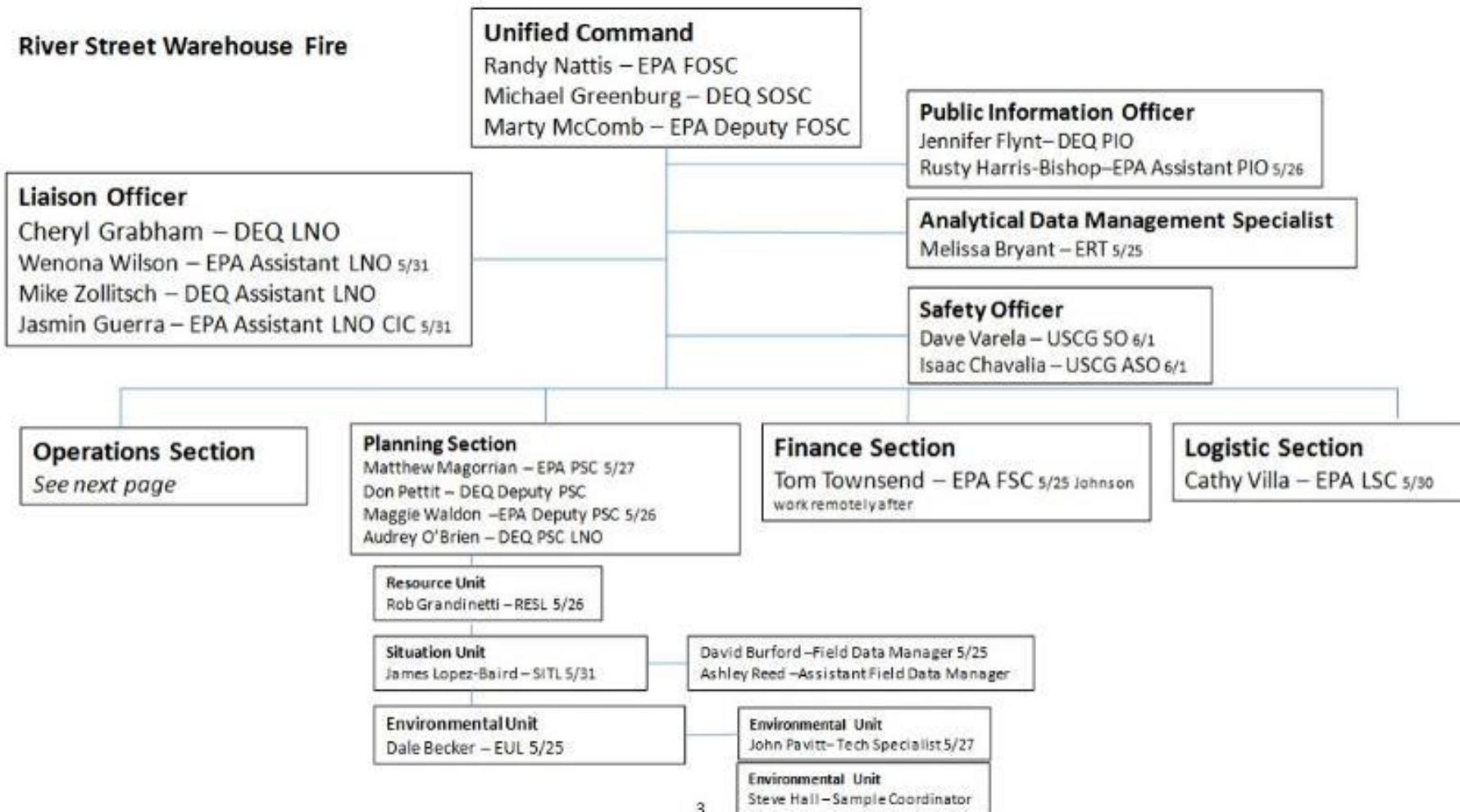
## Expanded Estimate of Area to be Surveyed

- On the morning of May 16<sup>th</sup> (Tuesday), it became clear that additional support and resources were needed and ODEQ made a request to EPA.
- EPA personnel started to arrive the afternoon of the 16<sup>th</sup> and entered into Unified Command with ODEQ



# Unified Command

River Street Warehouse Fire



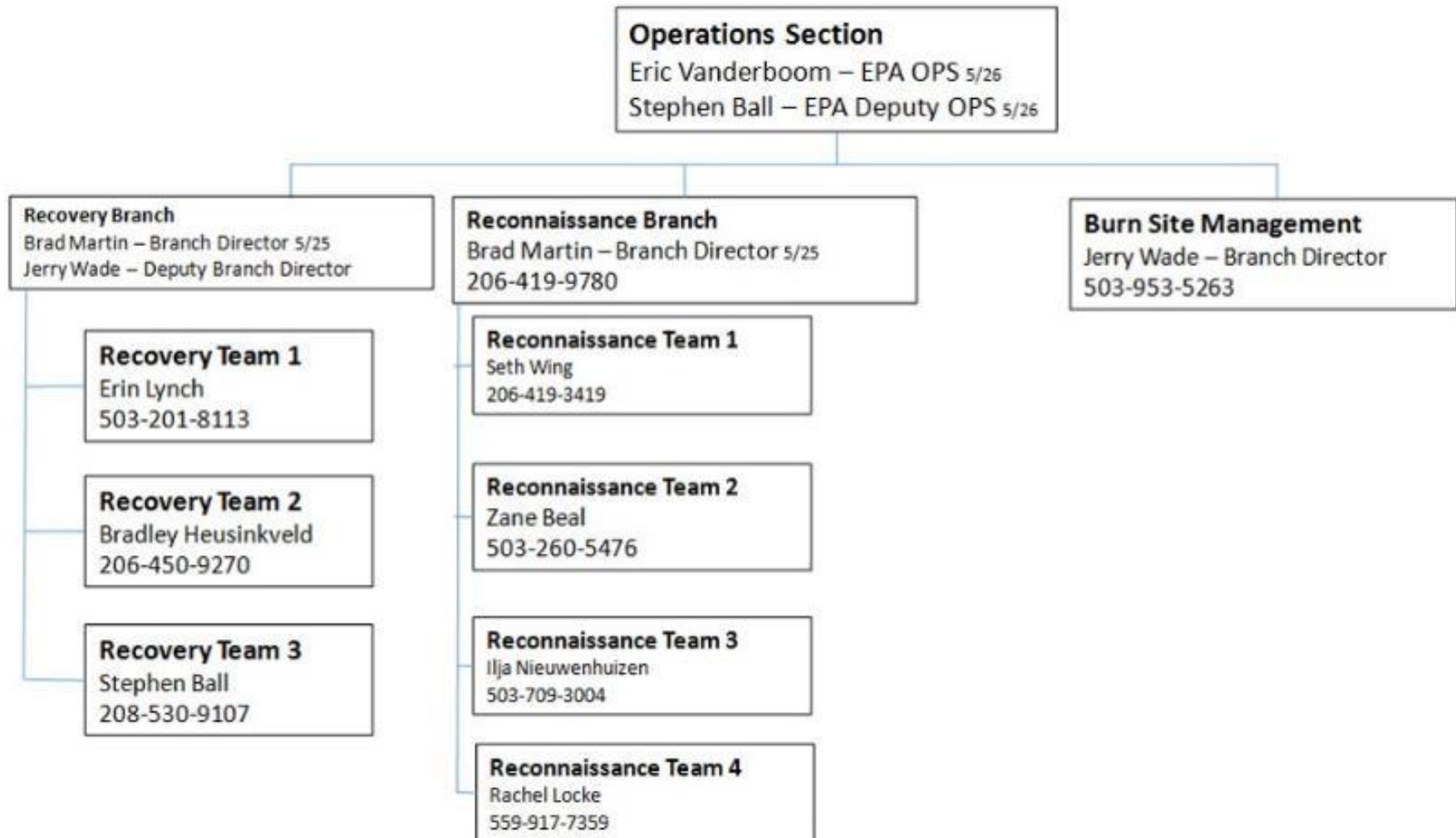
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# Unified Command

## Objectives

1. Assess and stabilize Warehouse site
2. Determine where the ACM fire debris ended up
3. Determine if asbestos levels in the ambient air posed a risk to the public
4. Evaluate public exposures from any residual ACM fire debris

# Assessment and Recovery



# Assessment and Recovery

## ◆ Reconnaissance team

- EPA team leader - EPA
- Community Involvement Coordinator - EPA
- Asbestos Supervisor - ODEQ
- Health and Safety officer - USCG
- Data specialist – EPA contractor



## ◆ Recovery team

- EPA team leader - EPA
- Community Involvement Coordinator - EPA
- Asbestos Supervisor - ODEQ
- Health and Safety officer - USCG
- Data specialist – EPA contractor
- Response Manager – EPA contractor
- Industrial hygienist – EPA contractor
- Asbestos abatement specialists – EPA contractor



# Assessment and Recovery

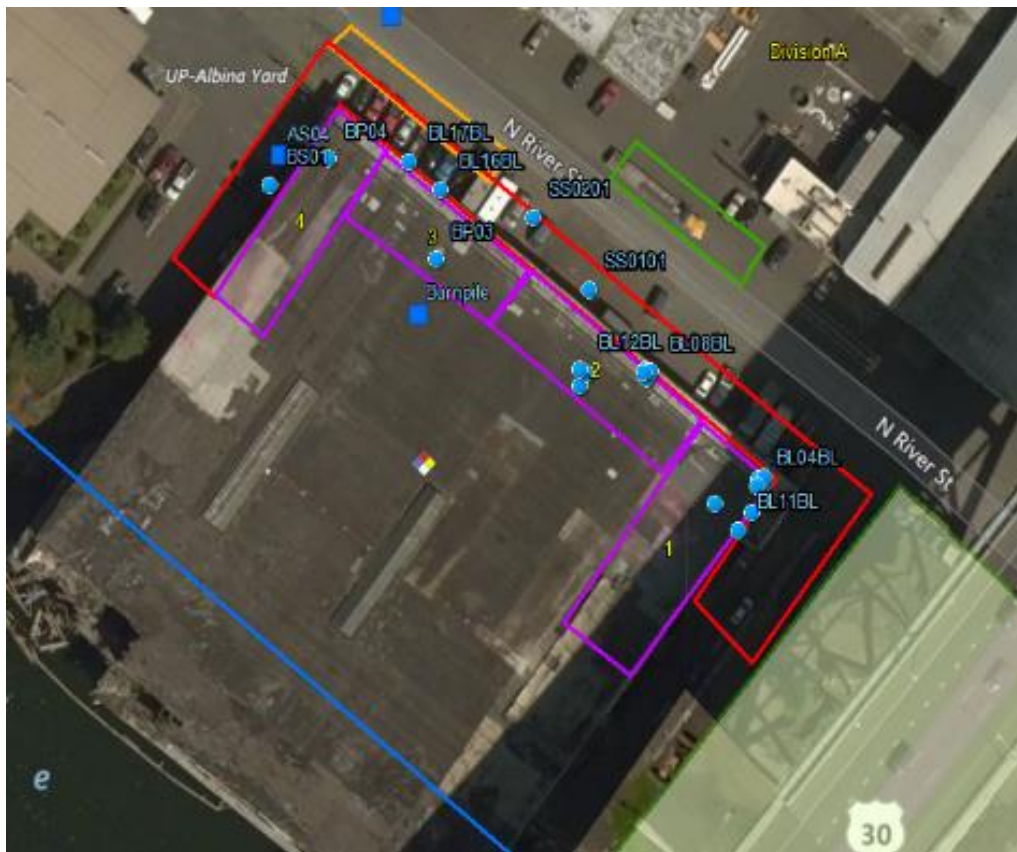
## Objective 1 - Assess and stabilize warehouse site



# Assessment and Recovery

## Objective 1 – continued...

- Collected daily air samples and provided continuous dust monitoring (PM)
- Collected 4 composite bulk samples for Contaminate Of Concern (COC) identification



# Assessment and Recovery

## Objective 1 continued...

### ◆ Assess and stabilize Warehouse site

- 40% Chrysotile Asbestos was found in bulk samples – no other COCs
- Due to on going dust suppression, no Asbestos fibers of concern were detected in the air samples





# Assessment and Recovery

## Objective 2 - Determine where the ACM fire debris ended up

### Soot Deposition Model by IMAAC

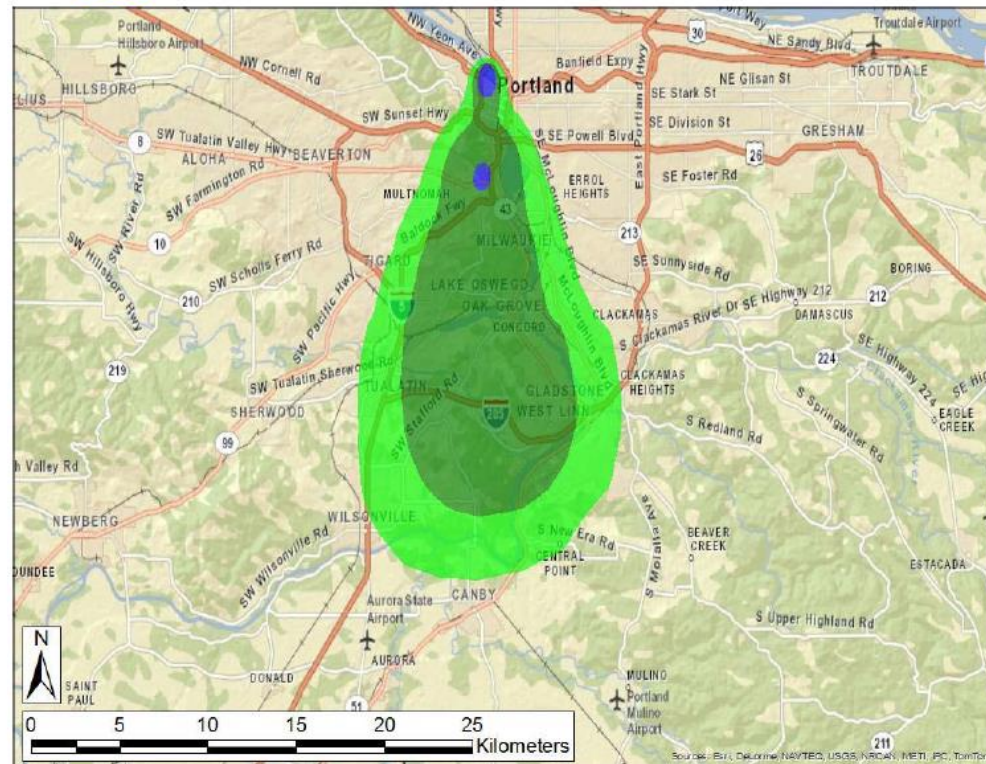


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Last Updated: 16MAY2017 1900Z

Surface Conc. at 2 hours

- Interagency Modeling and Atmospheric Assessment Center (IMAAC)
- Modeling of soot plume indicates potential for much larger plume and down-gradient impacts



Soot(Total) Concentration	
15-May-17 07:00:00Z (2.000 hr)	
■ 1E-8 kg/m <sup>3</sup>	1.0E-08 kg/m <sup>3</sup>
■ 1E-9 kg/m <sup>3</sup>	1.0E-09 kg/m <sup>3</sup>
■ 1E-10 kg/m <sup>3</sup>	1.0E-10 kg/m <sup>3</sup>

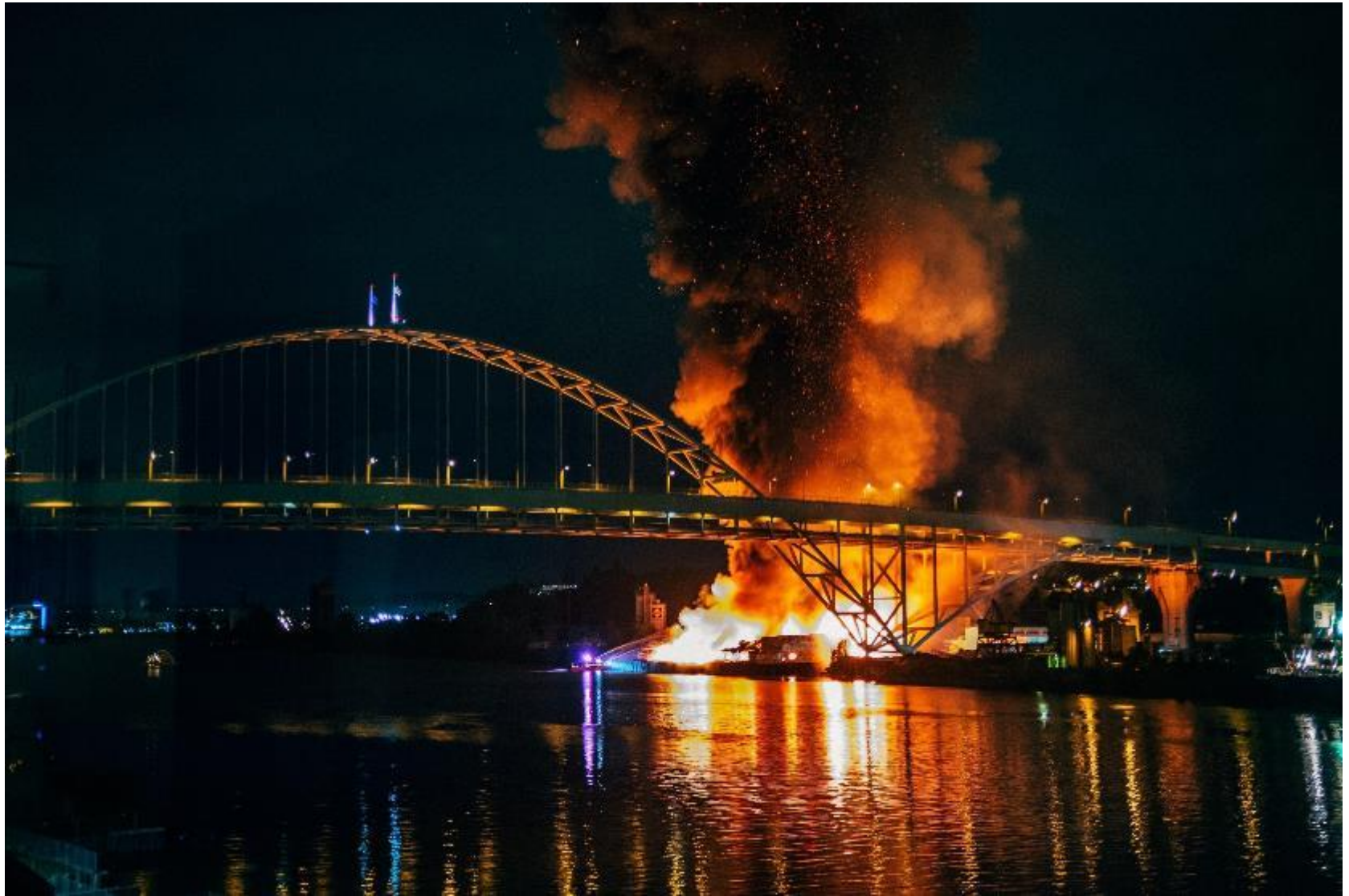
FACTS	
Portland, Oregon	
Location: 45.540122° N / 122.68226° W	
Incident Time: 0500Z 15MAY2017	
Hazard: Burning Warehouse	
Incident: Fire	
Weather: 12 km NAM	
Model: HPAC 6.3	
Static Population Estimates: LandScan 2015	

DTRA J9 IAR Technical Reachback  
(703) 767-3445, DSN 427-3445

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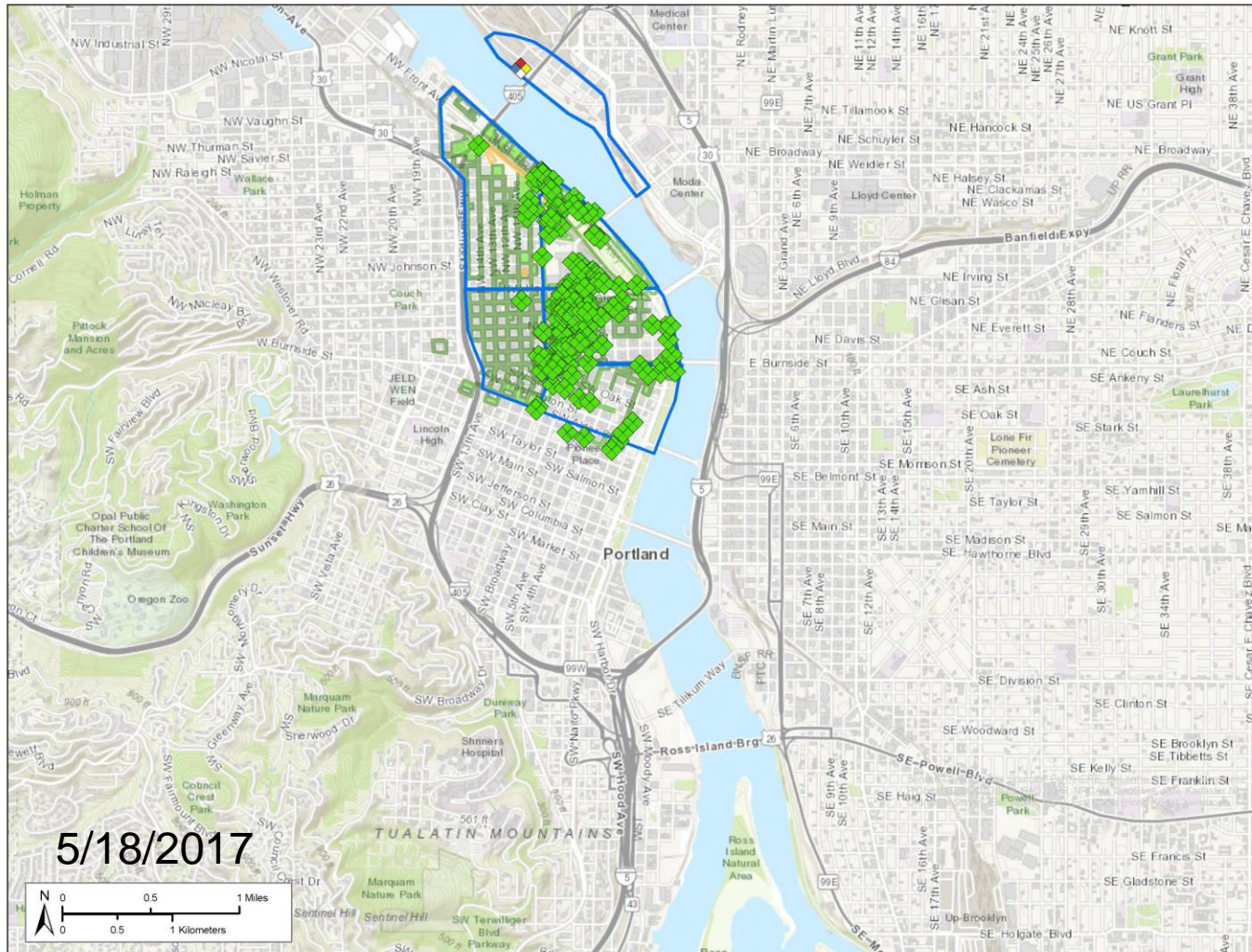
NIPR: dtra-reachback@mail.mil  
SIPR: dtra-reachback@mail.smil.mil

# Assessment and Recovery

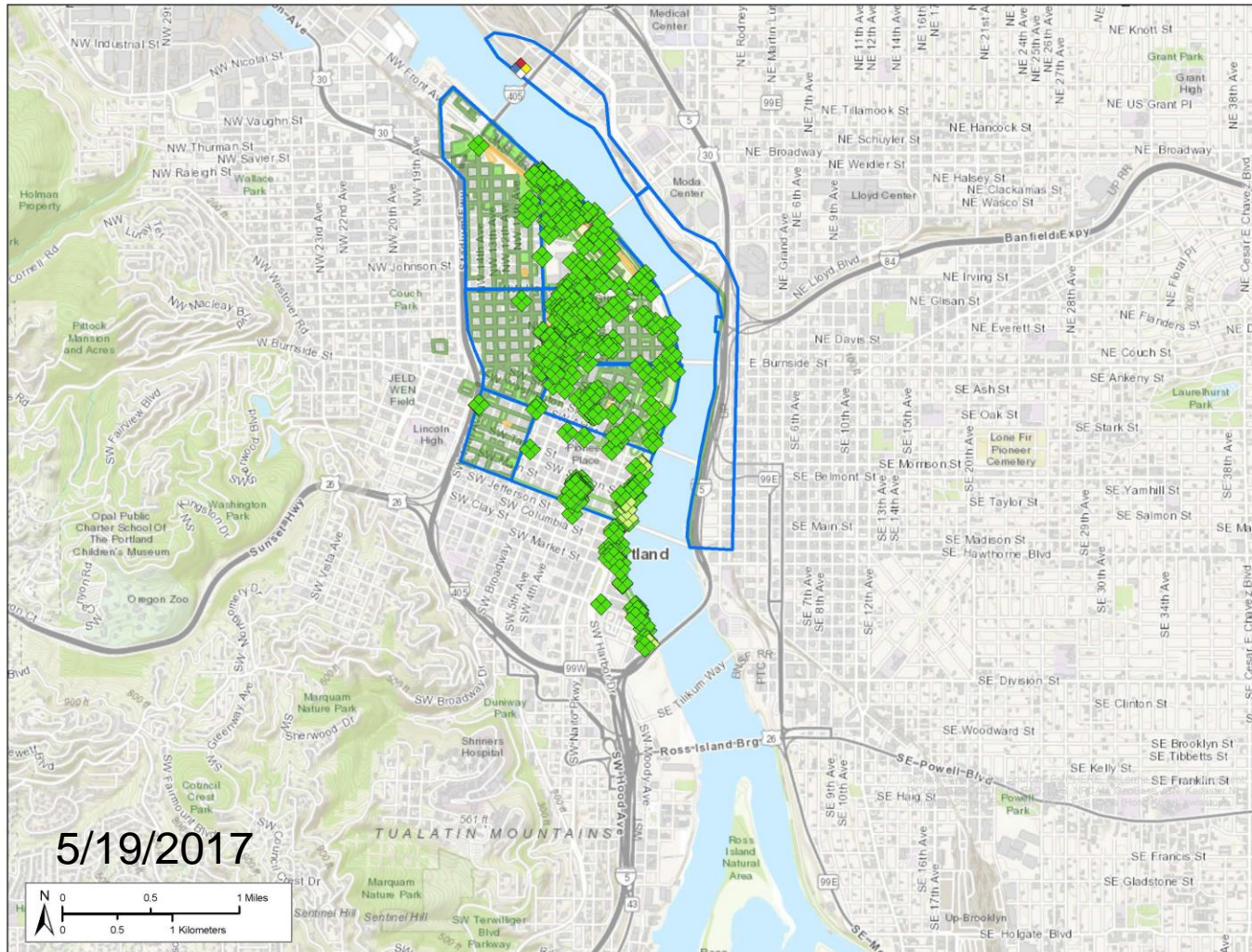




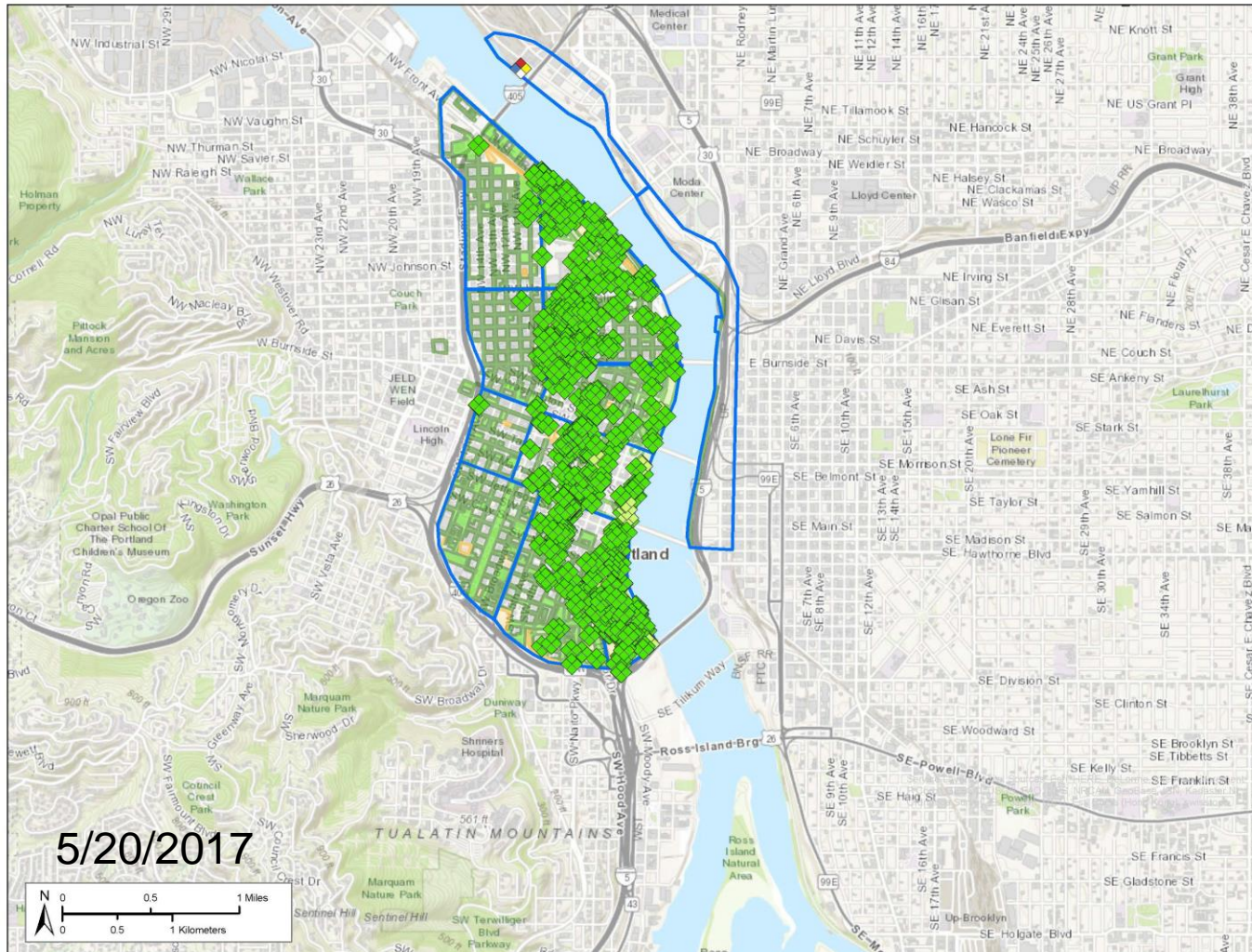
# Assessment and Recovery



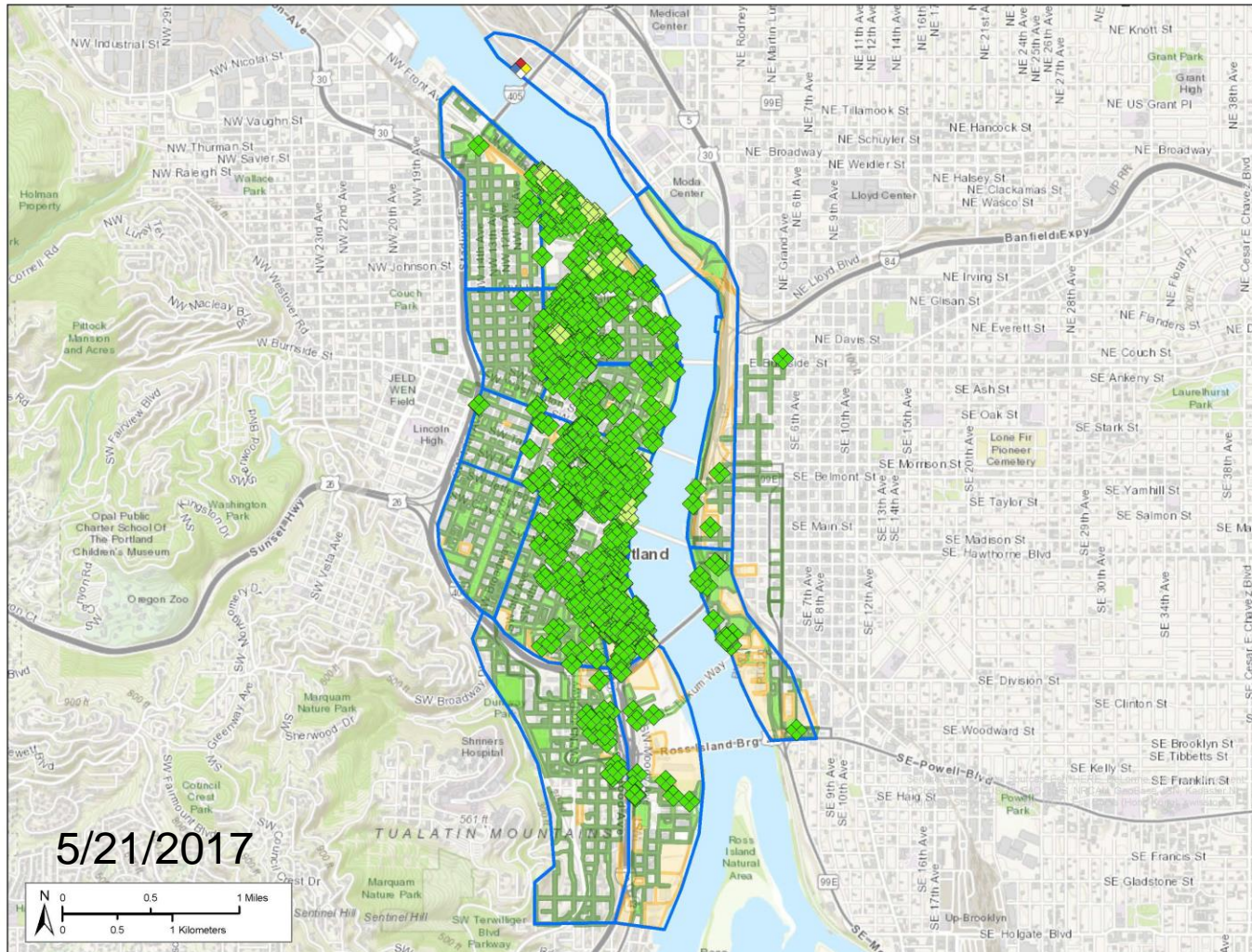
# Assessment and Recovery



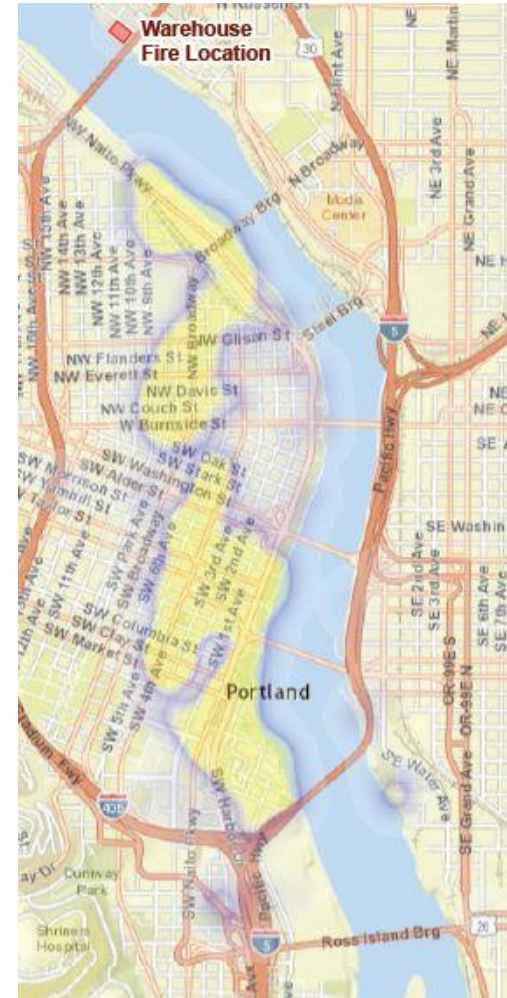
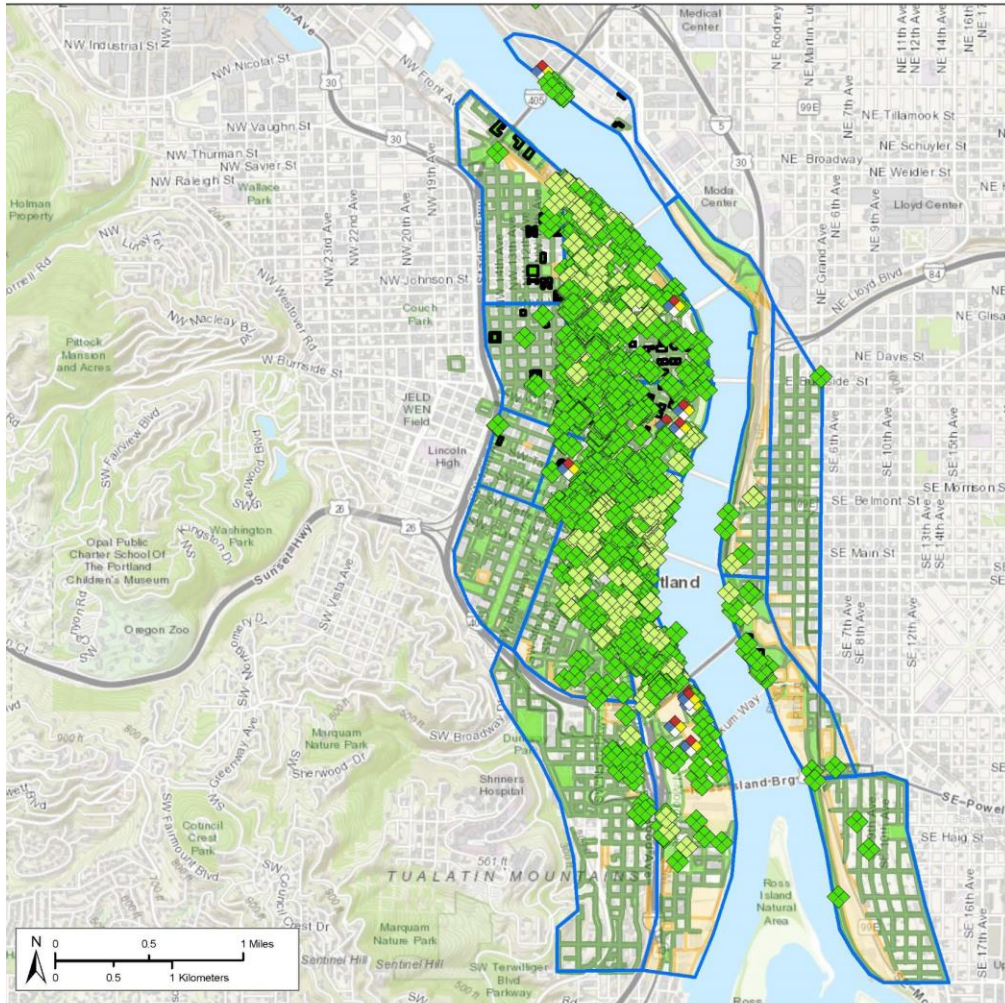
# Assessment and Recovery



# Assessment and Recovery

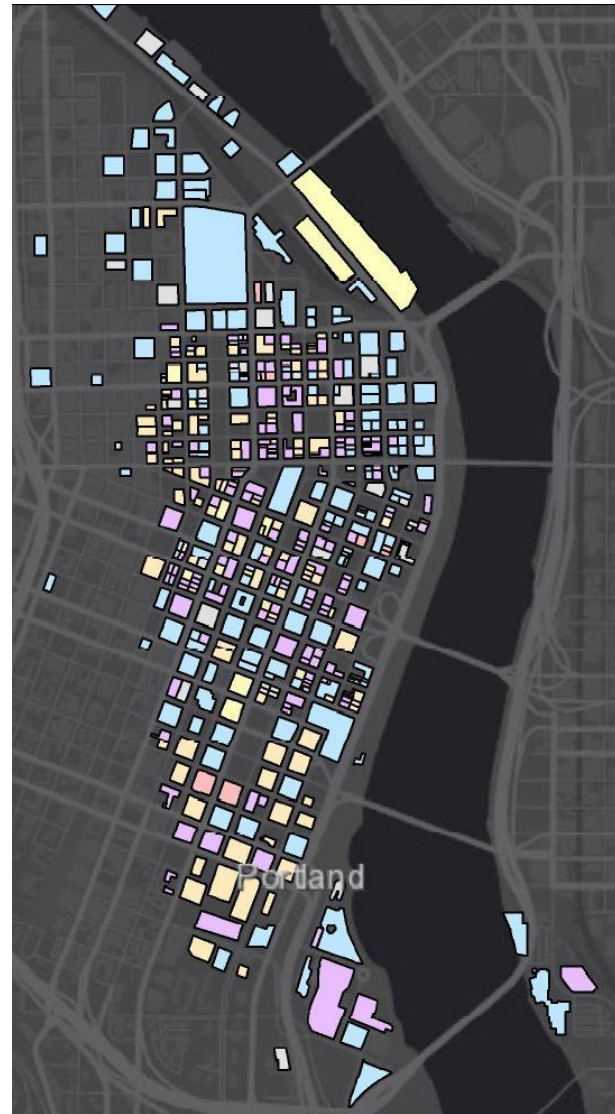
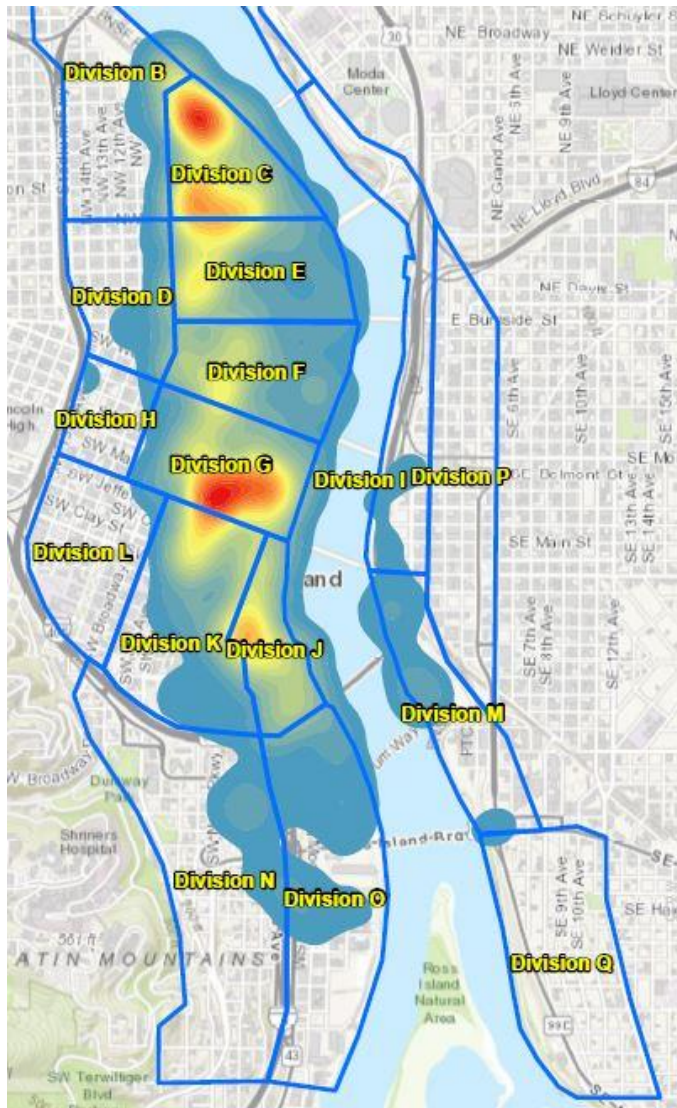


# Assessment and Recovery





# Assessment and Recovery



# Assessment and Recovery

## Objective 2 continued...

- ◆ The Unified Command leveraged ESRI full suite of tools and EPA's GeoPlatform, in doing so, once DQOs were established and the Data Management Plan was finalized, the collector application was set up for easy and consistent data collection practices
- ◆ A Common Operating Picture (COP) was used real time to track where the reconnaissance teams were finding debris and where recovery teams were cleaning it up
- ◆ The COP was utilized as a meeting tool at most meetings throughout the day
- ◆ Real-time assessment and remediation information drove response operations – usually the same day
  - As Assessment teams surveyed new areas, the deposition plume became more apparent, and resources were able to be diverted to priority locations.
- ◆ Progress Tracking
  - Recon progress
  - Removal progress



# Assessment and Recovery

## Objective 2 continued...

### *Added benefits of the COP*

- **Reconnaissance teams**
  - Marked locations of asbestos and took photos. Indicated area surveyed and update the status categories.
- **Recovery teams**
  - Navigated to previously identified contaminated areas and preformed remediation activities. As the contamination was removed, the features within the database were updated to communicate progress.
- **Air Monitoring Teams**
  - Teams identified pre-determined air station locations and adjusted or create new ones as necessary.
- **Data Managers**
  - Data was continuously QA/QC'd and any errors were caught and addressed in near real-time.
- **GIS Analysts**
  - Figures could be created utilizing real-time data, and other advanced data processing could occur
- **Incident Command**
  - Planning/Environmental Unit
    - Utilized for location selection for air samples and activity based samples
  - Situation Unit
    - Used live data to provide topical briefs and metrics
  - PIOs
    - Live data helped craft message throughout the day
- **Conclusion – Nature and extent was established and the entire response organization had near real-time information to help the decision making process**

# Assessment and Recovery

## Objective 3 - Determine if asbestos levels in the ambient air posed a risk to the public

- ◆ Air sampling during the first 6 days of the response
  - **Action level was set at 0.01 fiber per cubic centimeter (f/cc) – risk-based calculation based on 3 months continuous exposure to residents.**
  - 38 ambient air samples were collected and analyzed by Phase Contract Microscopy (PCM).
    - 4 of these had detections (0.001 – 0.002 f/cc)
  - 20 of the 38 were analyzed by Transmission Electron Microscopy (TEM), a few had low level detections but only 2 of these had PCME fibers
    - Chrysotile, *winchite* (0.002 f/cc), *actinolite* (0.001 f/cc)
  - 44 personnel samples were collected and analyzed by PCM
    - 9 of these had detections (0.003 – 0.016 f/cc)
  - 16 of the 44 were analyzed by TEM, 4 of these had PCME fibers
    - *Actinolite* (0.001) in one recovery worker
    - Remaining detections were in personnel who collected the bulk samples from the Warehouse
      - Chrysotile, *actinolite*, *winchite*, *richterite*, *tremolite*, *anthophyllite* were detected.
      - Concentrations were 0.006, 0.007 and 0.02 PCME f/cc in these workers.
- ◆ **Conclusion – No Air samples above the Action level**

# Assessment and Recovery

## Objective 4 - Evaluate public exposures to any residual ACM fire debris



# Assessment and Recovery

## Objective 4 continued...

- ◆ Eleven ABS samples were collected (high and low flow)
  - 4 of these had asbestos detected by PCM (0.007 – 0.017 f/cc)
- ◆ 6 samples were submitted for TEM analysis
  - 3 of these had PCME fibers detected (0.001 – 0.002 f/cc)
  - Mean concentration is 0.0067 f/cc
  - Chrysotile and *actinolite* were detected
- ◆ **Conclusion - these sampling events showed no short-term exposures**

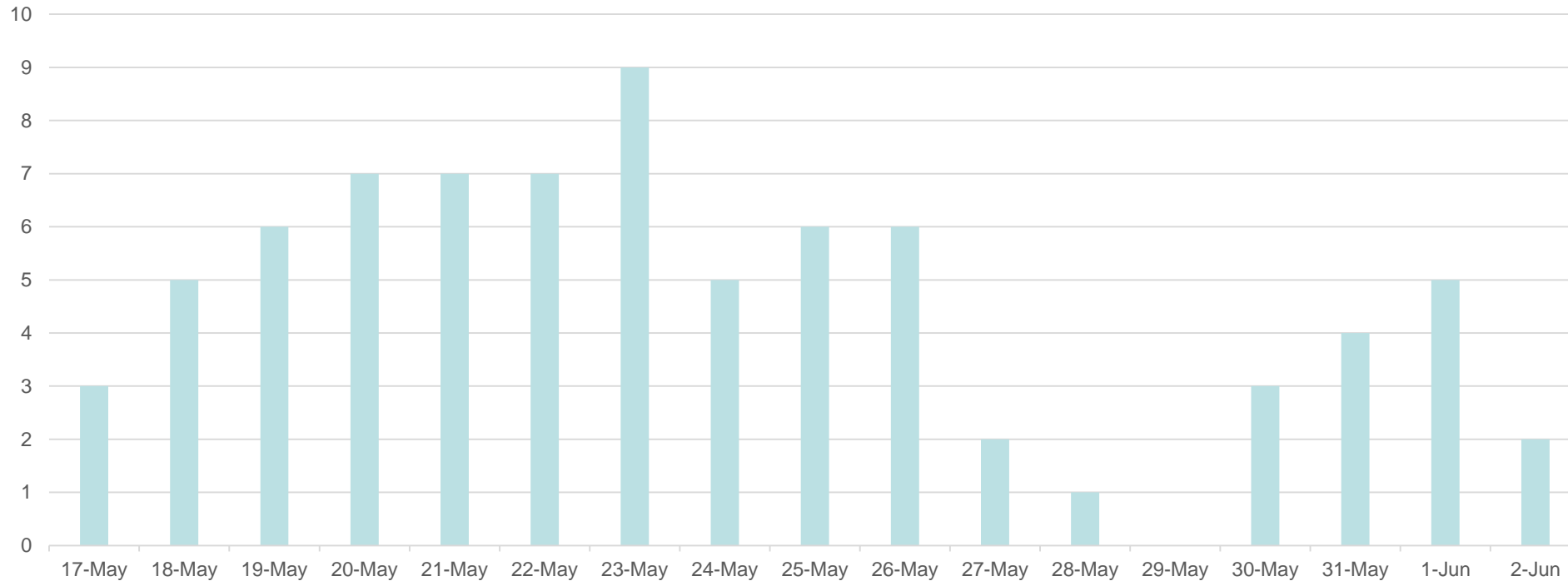
# In summary

- ◆ All 4 Unified Command Objectives were met
- ◆ The Environmental Unit and the Unified Commanders felt confident that if small amounts of ACM remained, that exposures to the general public wouldn't result in unacceptable risks
- ◆ Guidance for how to handle HVAC Systems, Catch Basin Waste, etc.
- ◆ Unified Command demobilized on June 3<sup>rd</sup>, 18 days after it stood up.

# In summary

## Field Teams.. By the numbers

# Teams (Recon, Recovery, Air Sampling)



Max # Field Teams

9

Average Field Teams Daily

4.59

Assessment Days

17

Total Team Deployments

78



Thank you for  
everything you've done  
for the community  
and the world.  
- [Signature]

Thanks  
Tony Grande  
- [Signature]

Thank You!  
- Chelsea San Nicolas

You guys ROCK!!! Thank you!  
- Perry M. Brown

So much gratitude!  
- [Signature]  
Job well done!  
Great work!  
You're the best!

Thank you for your  
courage and protecting our  
hearts you should be  
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Thanks!  
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# Thank You!

Thank you for  
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Thank you for  
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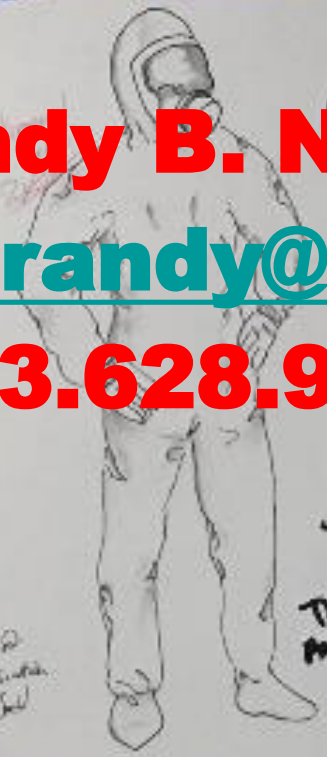
Great appreciation  
for all the support  
and great projects!  
- [Signature]

Thanks a bunch  
for all you've done  
- [Signature]

## Randy B. Nattis

### [nattis.randy@epa.gov](mailto:nattis.randy@epa.gov)

### 503.628.9419



Thanks a million!  
- [Signature]

Thanks for all your  
hard work!  
- [Signature]

Thank you!  
- [Signature]

You are  
Rock Stars!  
Thank you!  
- [Signature]

We can breathe  
better knowing you  
are on the job!  
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Great job by  
all of you  
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Thank you for  
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Thank you!  
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Thank you  
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Thank you  
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Thank you for  
all your hard work!  
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Thank you for  
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# Portland Asbestos Response

You guys  
ROCK!!!  
- [Signature]

Thanks!  
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