



NATIONAL TRANSPORTATION SAFETY BOARD - **Public Hearing**

Conrail Derailment in Paulsboro, NJ with Vinyl Chloride Release

GROUP	3
EXHIBIT	
F	

Agency / Organization

Center for Toxicology Environmental Health

Title

**CTEH Air Sampling and
Monitoring Summary from Nov. 30, 2012**

**40402 Paulsboro, New Jersey
East Jefferson Street Bridge Derailment 2012
Preliminary Summary of Air Monitoring and Sampling Activities
November 30, 2012**

This data report discusses real-time air monitoring data and analytical sampling efforts collected between November 30th 13:39 and November 30th 23:59 near the East Jefferson Street Bridge Train Derailment.

Real-time air monitoring was conducted for volatile organic compounds (VOCs), lower explosive limit (LEL), vinyl chloride, and oxygen using stationary AreaRAEs and/or hand-held instruments such as the MultiRAE and colorimetric detector tubes. Analytical air sampling was conducted at 7 stations for volatile organic compounds using EPA method TO15. Table 1 and Table 2 below display data summaries for AreaRAE and hand-held instrument data, respectively. Appendix 1 shows incident site maps.

**Table 1
AreaRAE Summary – November 30th 16:26 – 23:59**

Unit	Analyte	Number of Readings	Number Of Detections	Concentration Range
Unit 1	LEL	1045	0	<1.0 %
	O2	1045	1045	20.6 - 21.3 %
	VOC	1045	821	0.1 - 11.8 ppm
Unit 2	LEL	1118	0	<1.0 %
	O2	1118	1118	20.9 - 20.9 %
	VOC	1118	0	<0.1 ppm
Unit 3	LEL	1011	0	<1.0 %
	O2	1011	1011	20.9 - 20.9 %
	VOC	1011	0	<0.1 ppm
Unit 4	LEL	1020	0	<1.0 %
	O2	1020	1020	20.9 - 20.9 %
	VOC	1020	0	<0.1 ppm

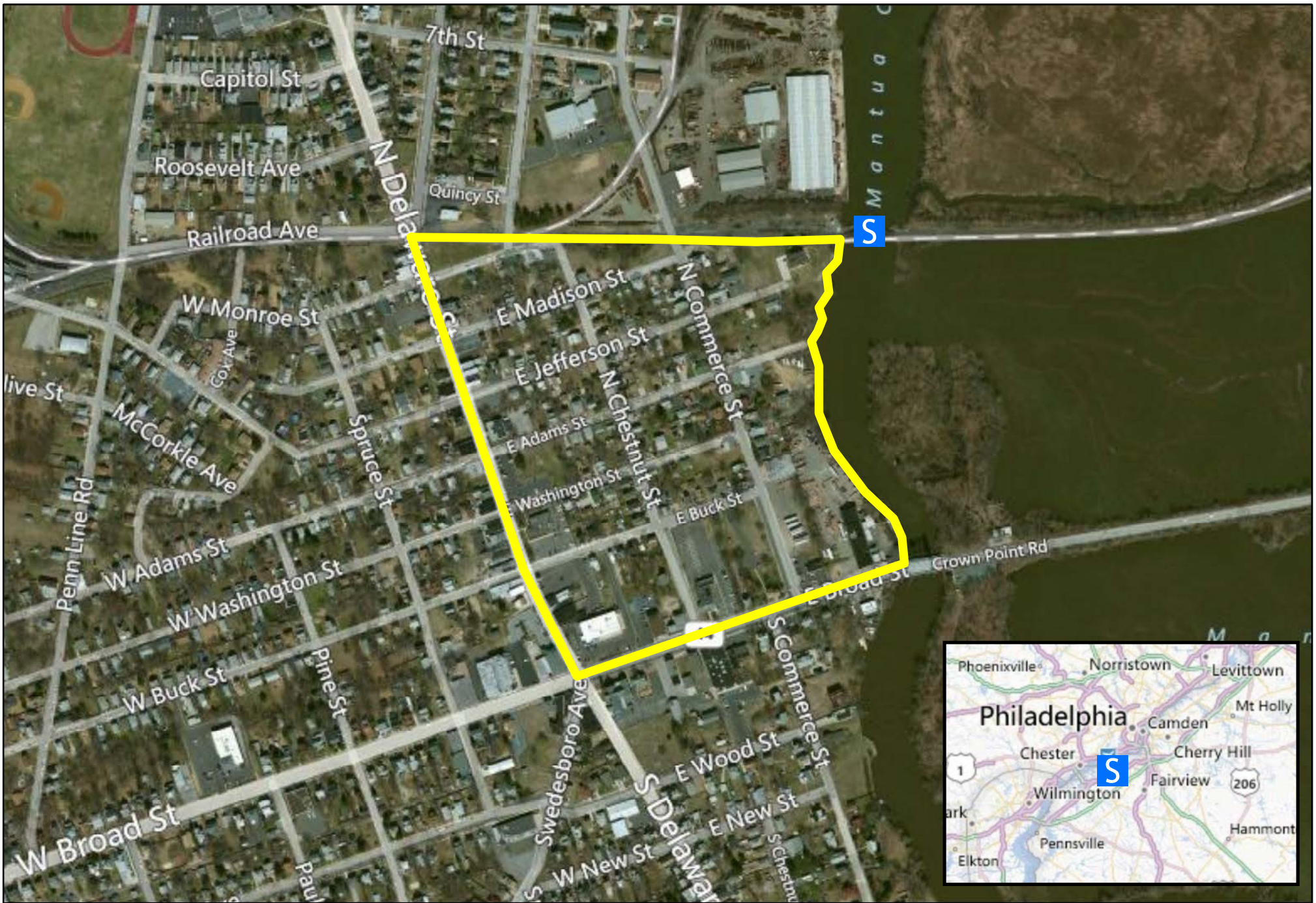
***Detections may include drift events** - Drift is defined as any interference in the sensor's ability to accurately report the concentration of a chemical in the atmosphere. Humidity and temperature changes throughout the monitoring period are typical sources of drift.

**Table 2
Hand-held Real-time Summary – November 30th 13:39 – 23:59**

Community			
Analyte	Number of Readings	Number of Detections	Highest Concentration
LEL	77	0	<1.0 %
O2	54	54	21.3 %
Vinyl Chloride 131L	15	12	1.2 ppm
VOC	85	8	0.5 ppm
Evacuated Area			
LEL	21	0	<1.0 %
O2	11	11	21.6 %
Vinyl Chloride 131L	8	7	3 ppm
VOC	25	5	4.5 ppm
Work Area			
LEL	2	0	<1.0 %
O2	2	2	21.6 %
Vinyl Chloride 131L	3	2	0.8 ppm
VOC	4	0	<0.1 ppm

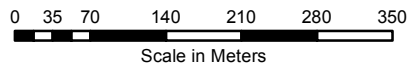
PPM – parts per million

Appendix 1: Incident Maps



Incident Site

- S Derailment Site
- Evacuation Zone



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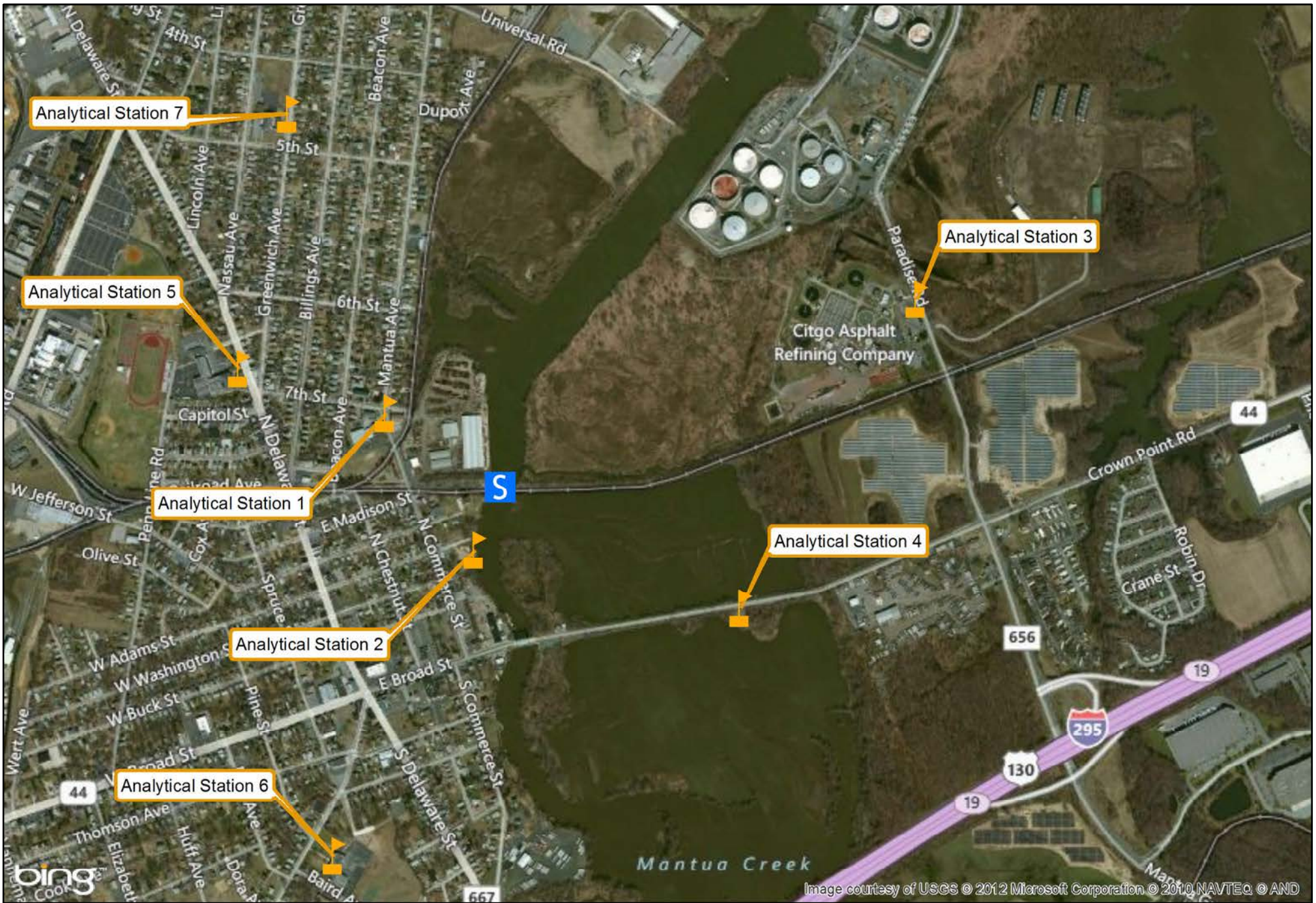


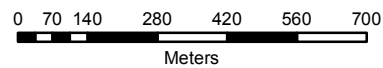
Image courtesy of USGS © 2012 Microsoft Corporation © 2010 NAVTEQ © AND

Analytical Air Sampling Locations



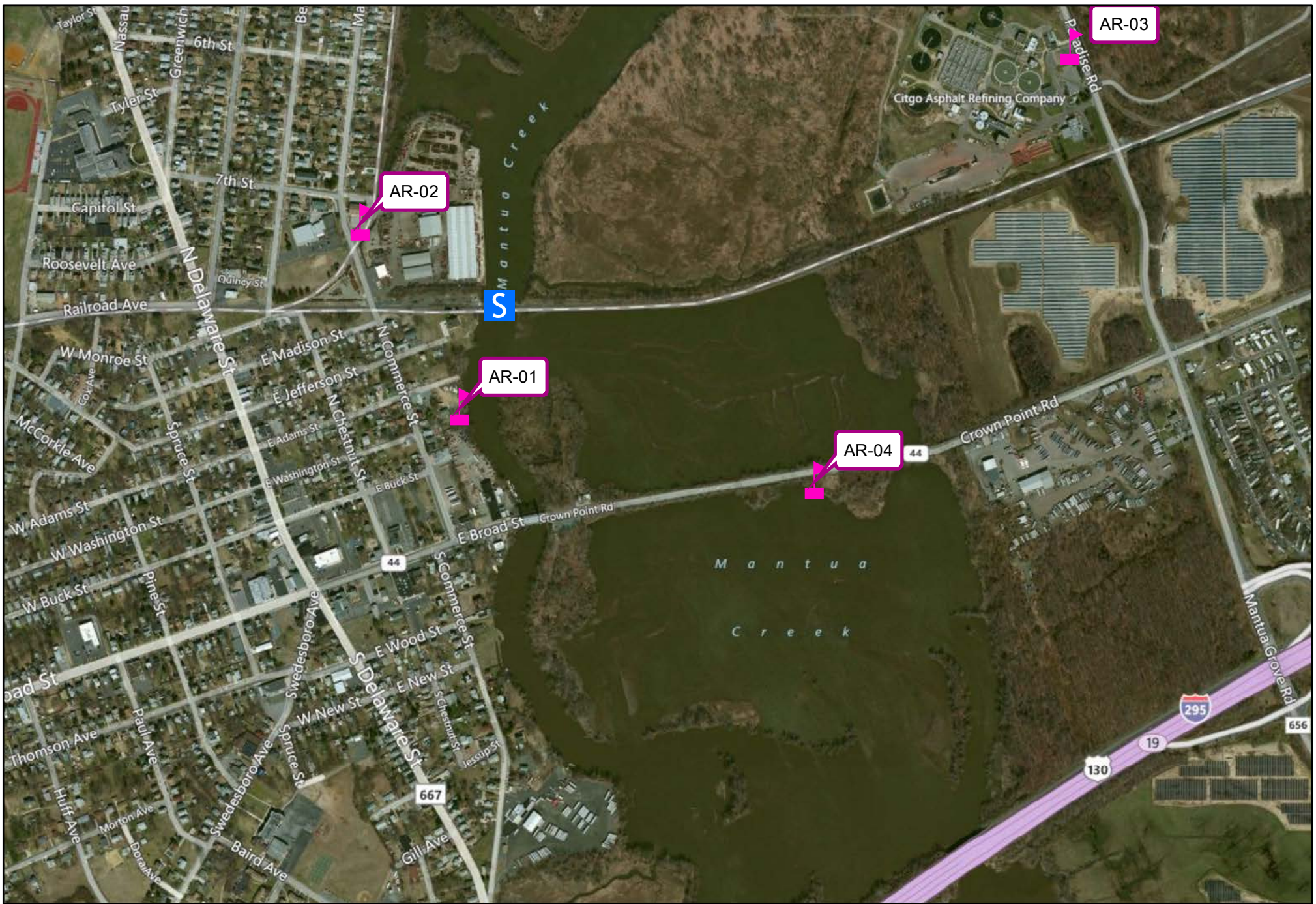
Air Sampling Station

Incident Site



Conrail
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Gloucester County
 Print Date: 12/11/2012

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40202



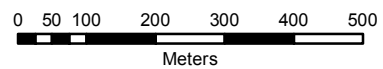
AreaRAE Monitoring Locations



AreaRAE Station

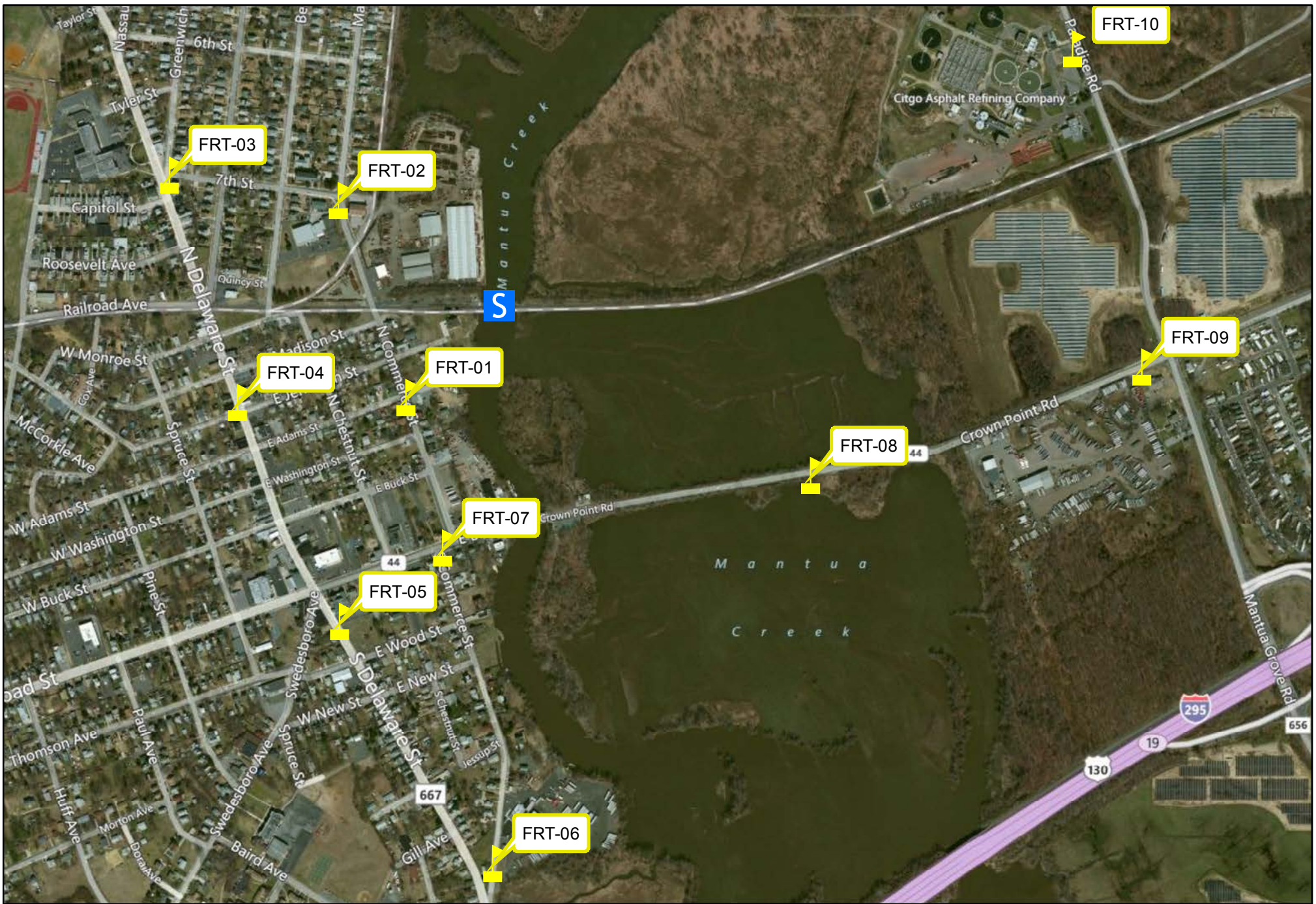


Incident Site



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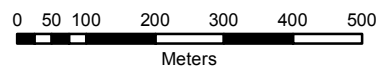
Manually Logged Fixed Real-Time Station



Incident Site



Real Time Station



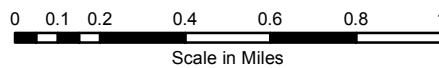
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**Manually Logged Real-Time
Monitoring Locations
November 30, 2012**

- Real-Time Reading
- S Derailment Site
- Evacuation Zone



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