



# PRELIMINARY AIR MONITORING SUMMARY

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Jenkintown, PA  
SPS Technologies Fire  
February 23-24, 2025

Submitted February 25, 2025

## 1.0 INTRODUCTION

On February 19, 2025, CTEH was contacted to provide community air monitoring for SPS Technologies, LLC in conjunction with the United States Environmental Protection Agency (USEPA) and the Pennsylvania Department of Environmental Protection (PA DEP). CTEH initially established seven stationary real-time air monitoring locations in a perimeter around the SPS Technologies facility and adjacent residential areas on the morning of February 20, 2025. Real-time air monitoring performed by CTEH began at 1208 EST on February 20, 2025. At 1000 EST on February 22, 2025, CTEH established a Kestrel 6000 cellular weather station approximately 500 feet north of the facility. On the evening of February 22, 2025, CTEH established four additional stationary monitoring locations in community areas around the facility. Consistent with the updated Air Sampling and Analysis Plan (SAP) submitted on February 23, 2025, CTEH established two additional community stationary monitoring locations on both February 23 and February 24, 2025, bringing the total number of stationary monitoring locations to fifteen. These stationary real-time monitoring locations were established to encompass a 360° monitoring perimeter around the facility and within nearby communities.

This report summarizes real-time air monitoring data collected by CTEH personnel from 0600 EST on February 23, 2025 to approximately 0600 EST on February 24, 2025.

## 2.0 AIR MONITORING METHODS

Real-time air monitoring refers to the use of direct-reading instruments to provide a near-instantaneous readout of chemical concentrations in the air. On February 19, 2025, CTEH personnel developed a SAP to document and quantify the potential release of fugitive emissions from the incident. CTEH has continued to update the SAP and associated monitoring locations based on feedback from PA DEP. The analytes chosen for air monitoring were coordinated with representatives from USEPA and PA DEP for this incident based on the Tier II documentation for the SPS Technologies Facility.

Handheld real-time air monitoring refers to data collected by roaming CTEH personnel using handheld air monitoring instruments. Stationary real-time air monitoring refers to stationary instruments that record air monitoring data approximately every 15 seconds and send the data in real time to a centralized location via radio telemetry. Handheld and Stationary real-time air monitoring were conducted using RAE® Systems by Honeywell AreaRAE instruments equipped with 10.6 eV photoionization detectors and multiple electrochemical sensors, ChemLogic CLPx portable gas detectors, and Gastec GV-100 pumps equipped with chemical-specific, colorimetric detector tubes. These include volatile organic compounds (VOCs), hydrogen cyanide (HCN), hydrogen sulfide (H<sub>2</sub>S), chlorine (Cl<sub>2</sub>), carbon monoxide (CO), sulfuric acid, nitric acid, oxygen (O<sub>2</sub>), and flammability as a percentage of the lower explosive limit (%LEL).

Additionally, handheld and stationary real-time air monitoring for particulate matter of 2.5 µm diameter or less (PM<sub>2.5</sub>) was conducted using TSI SidePak AM520 instruments.

### 3.0 AIR MONITORING RESULTS

Maps of the incident location, real-time air monitoring results, and the locations of stationary real-time air monitoring are provided in **Attachment A**. The results of handheld real-time air monitoring are summarized in **Table 1**. The results of stationary real-time perimeter air monitoring are summarized in **Tables 2 and 3**. The results of the stationary real-time expanded community air monitoring are summarized in **Tables 5 and 6**. Visual depictions of the stationary real-time air monitoring data from the perimeter locations are provided in **Attachment B**. Visual depictions of the stationary real-time air monitoring data from the expanded community locations are provided in **Attachment C**. A wind rose depicting wind direction and wind speed during this reporting period is provided in **Attachment D**. Meteorological data were acquired from both the PHILADELPHIA NE weather station in Philadelphia, PA, and a Kestrel 6000 cellular weather station located approximately 500 feet north of the facility.

#### 3.1 Handheld Real-Time Air Monitoring Results

**Table 1: Handheld Real-Time Perimeter and Expanded Community Air Monitoring Results<sup>†</sup>**

Analyte	Instrument	Number of Readings	Number of Detections	Concentration Range*
Cl <sub>2</sub>	Gastec 8La	116	0	< 0.05 ppm
H <sub>2</sub> S	Gastec #4LL	2	0	< 0.1 ppm
HCN	Gastec #12L	17	0	< 0.1 ppm
Nitric Acid	Gastec #15L	137	0	< 0.05 ppm
Sulfuric Acid	CLPx	36	0	< 23.3 ppb
	Gastec #35	101	0	< 0.2 mg/m <sup>3</sup>

<sup>†</sup>Note: This is a preliminary data summary, indicating that the data provided have not undergone full quality assurance and quality control (QAQC) process and should be considered preliminary at this time.

\*If no detectable concentration was observed, the instrument detection limit is preceded by a “<” symbol.

There were no detections of any analyte evaluated during Handheld Perimeter Air Monitoring or Handheld Expanded Community Air Monitoring in this reporting period.

### 3.2 Stationary Real-Time Perimeter Air Monitoring Results

**Table 2. Summary of Stationary Real-Time Perimeter Air Monitoring AreaRAE Results<sup>†</sup>**

Unit	Analyte	Number of Readings		Number of Detections	Concentration Range*
Station 01	CO	5,779	1		4.0 ppm
	H <sub>2</sub> S	5,779	0		< 0.1 ppm
	HCN	5,779	0		< 1.0 ppm
	%LEL	5,745	0		< 1.0 %
	VOCs	5,779	533		0.1 - 0.8 ppm
Station 02	CO	5,794	0		< 1.0 ppm
	H <sub>2</sub> S	5,794	0		< 0.1 ppm
	HCN	5,794	0		< 1.0 ppm
	%LEL	5,794	0		< 1.0 %
	VOCs	5,795	1		0.1 ppm
Station 03	CO	5,790	0		< 1.0 ppm
	H <sub>2</sub> S	5,790	0		< 0.1 ppm
	HCN	5,790	0		< 1.0 ppm
	%LEL	5,790	0		< 1.0 %
	VOCs	5,790	0		< 0.1 ppm
Station 04	CO	5,772	16		2.0 - 4.0 ppm
	H <sub>2</sub> S	5,772	0		< 0.1 ppm
	HCN	5,772	0		< 1.0 ppm
	%LEL	5,772	0		< 1.0 %
	VOCs	5,772	678		0.1 - 0.2 ppm
Station 05	CO	5,801	0		< 1.0 ppm
	H <sub>2</sub> S	5,801	0		< 0.1 ppm
	HCN	5,801	0		< 1.0 ppm
	%LEL	5,801	0		< 1.0 %
	VOCs	5,801	100		0.1 - 0.7 ppm
Station 06	CO	5,804	0		< 1.0 ppm
	H <sub>2</sub> S	5,804	0		< 0.1 ppm
	HCN	5,804	0		< 1.0 ppm
	%LEL	5,804	0		< 1.0 %
	VOCs	5,804	73		0.1 - 0.3 ppm
Station 07	CO	5,778	0		< 1.0 ppm
	H <sub>2</sub> S	5,778	0		< 0.1 ppm
	HCN	5,778	0		< 1.0 ppm

%LEL	5,778	0	< 1.0 %
VOCs	5,778	510	0.1 - 0.3 ppm

†Note: This is a preliminary data summary, indicating that the data provided have not undergone full quality assurance and quality control (QAQC) process and should be considered preliminary at this time. AreaRAE monitoring data contain drift events. Drift is defined as any interference in an instrument's photoionization detector (PID; 10.6 eV) or electrochemical sensor's ability to accurately report the concentration of a chemical in the atmosphere. Humidity, rapid temperature changes, and compromised instrument batteries are examples of common sources of drift.

\* If no detection was observed, the instrument detection limit preceded by a "<" symbol is listed; ppm = parts per million

**Table 3: Summary of Stationary Real-Time Perimeter Air Monitoring PM<sub>2.5</sub> Results<sup>†</sup>**

Unit	Instrument	24-Hour PM <sub>2.5</sub> NAAQS	Average PM <sub>2.5</sub> Concentration (mg/m <sup>3</sup> )
Station 1	AM520	0.035	0.039
Station 2	AM520	0.035	0.033
Station 3	AM520	0.035	0.031
Station 4	AM520	0.035	0.030
Station 5	AM520	0.035	0.028
Station 6	AM520	0.035	0.037
Station 7	AM520	0.035	0.049

†Note: This is a preliminary data summary, indicating that the data provided have not undergone full quality assurance and quality control (QAQC) process and should be considered preliminary at this time.

Stationary real-time monitoring at six locations around the perimeter of the facility and one location outside Jenkintown Middle/High School indicated that there were no detections of H<sub>2</sub>S, HCN, or % LEL during the reporting period. A single, low-level detection of CO was observed at Station 1.

Beginning at approximately 2100 EST on February 23, a smoldering event was identified in the facility. Elevated PM<sub>2.5</sub> concentrations were observed at three perimeter locations (Stations 1, 6, and 7) until approximately 0400 EST on February 24. PM<sub>2.5</sub> detections contributing to the elevated average concentrations were limited to the evening and overnight hours during the smoldering event. The reported concentrations do not account for the potential influence of relative humidity, which can cause hygroscopic particles measured by the instrumentation to grow and result in an overestimation of PM<sub>2.5</sub> concentrations.

### 3.3 Stationary Real-Time Expanded Community Air Monitoring Results

**Table 4. Summary of Stationary Real-Time Expanded Community Air Monitoring AreaRAE Results<sup>†</sup>**

Unit	Analyte	Number of Readings	Number of Detections	Concentration Range*
Station 08	CO	5,893	0	< 1.0 ppm
	H <sub>2</sub> S	5,893	0	< 0.1 ppm
	HCN	5,893	0	< 1.0 ppm

	LEL	5,893	0	< 1.0 %
	O <sub>2</sub>	5,893	5,893	20.9 - 21.5 %
	VOCs	5,893	1	0.1 ppm
Station 09	CO	5,883	0	< 1.0 ppm
	H <sub>2</sub> S	5,883	0	< 0.1 ppm
	HCN	5,883	0	< 1.0 ppm
	LEL	5,883	0	< 1.0 %
	O <sub>2</sub>	5,883	5,883	20.3 - 20.9 %
	VOCs	5,883	1,374	0.1 - 0.2 ppm
	Station 10	CO	6,071	0
H <sub>2</sub> S		6,071	0	< 0.1 ppm
HCN		6,071	0	< 1.0 ppm
LEL		6,071	0	< 1.0 %
O <sub>2</sub>		6,071	6,071	20.9 %
VOCs		6,071	0	< 0.1 ppm
Station 11	CO	6,122	0	< 1.0 ppm
	H <sub>2</sub> S	6,124	0	< 0.1 ppm
	HCN	6,124	0	< 1.0 ppm
	LEL	6,124	0	< 1.0 %
	O <sub>2</sub>	6,124	6,124	20.9 - 21.6 %
	VOCs	6,124	3	0.1 ppm
Station 012	CO	3,307	0	< 1.0 ppm
	H <sub>2</sub> S	3,307	0	< 0.1 ppm
	HCN	3,307	0	< 1.0 ppm
	LEL	3,307	0	< 1.0 %
	O <sub>2</sub>	3,307	3,307	20.9 - 21.6 %
	VOCs	3,307	254	0.1 ppm
Station 013	CO	3,225	0	< 1.0 ppm
	H <sub>2</sub> S	3,225	20	0.1 - 4.2 ppm
	HCN	3,225	0	< 1.0 ppm
	LEL	3,225	0	< 1.0 %
	O <sub>2</sub>	3,225	3,225	20.9 %
	VOCs	3,225	0	< 0.1 ppm

†Note: This is a preliminary data summary, indicating that the data provided have not undergone full quality assurance and quality control (QA/QC) process and should be considered preliminary at this time. AreaRAE monitoring data contain drift events. Drift is defined as any interference in an instrument's photoionization detector (PID; 10.6 eV) or electrochemical sensor's ability to accurately report the concentration of a chemical in the atmosphere. Humidity, rapid temperature changes, and compromised instrument batteries are examples of common sources of drift.

\* If no detection was observed, the instrument detection limit preceded by a "<" symbol is listed; ppm = parts per million

**Table 5: Summary of Stationary Real-Time Expanded Community Air Monitoring PM<sub>2.5</sub> Results <sup>†</sup>**

Unit	Instrument	24-Hour PM <sub>2.5</sub> NAAQS	Average PM <sub>2.5</sub> Concentration (mg/m <sup>3</sup> )
Station 8	AM520	0.035	0.023
Station 9	AM520	0.035	0.027
Station 10	AM520	0.035	0.025
Station 11	AM520	0.035	0.018
Station 12	AM520	0.035	0.037
Station 13	AM520	0.035	0.031

<sup>†</sup>Note: This is a preliminary data summary, indicating that the data provided have not undergone full quality assurance and quality control (QAQC) process and should be considered preliminary at this time. Due to equipment failure, Station 11 did not record PM<sub>2.5</sub> data during this reporting period.

Stationary real-time monitoring at six locations in communities surrounding the facility indicated no detections of CO, HCN, or % LEL. All measurements of O<sub>2</sub> were within normal ambient conditions. Transient detections of H<sub>2</sub>S were observed at Station 13. Because no detections of H<sub>2</sub>S were observed at monitoring locations closer to the facility in the same timeframe, these detections were likely due to sources unrelated to the impacted facility.

During this reporting period, elevated PM<sub>2.5</sub> concentrations were observed at Station 12. This monitoring location was crosswind from the impacted facility, which suggests PM<sub>2.5</sub> concentrations observed were unrelated to the impacted facility.

## 4.0 METEOROLOGICAL CONDITIONS

**Attachment D** contains wind roses depicting wind speed and direction from station PHILADELPHIA NE, approximately 6.89 miles from the site, and a Kestrel 6000 cellular monitoring station located approximately 500 feet north of the facility.

# Attachment A

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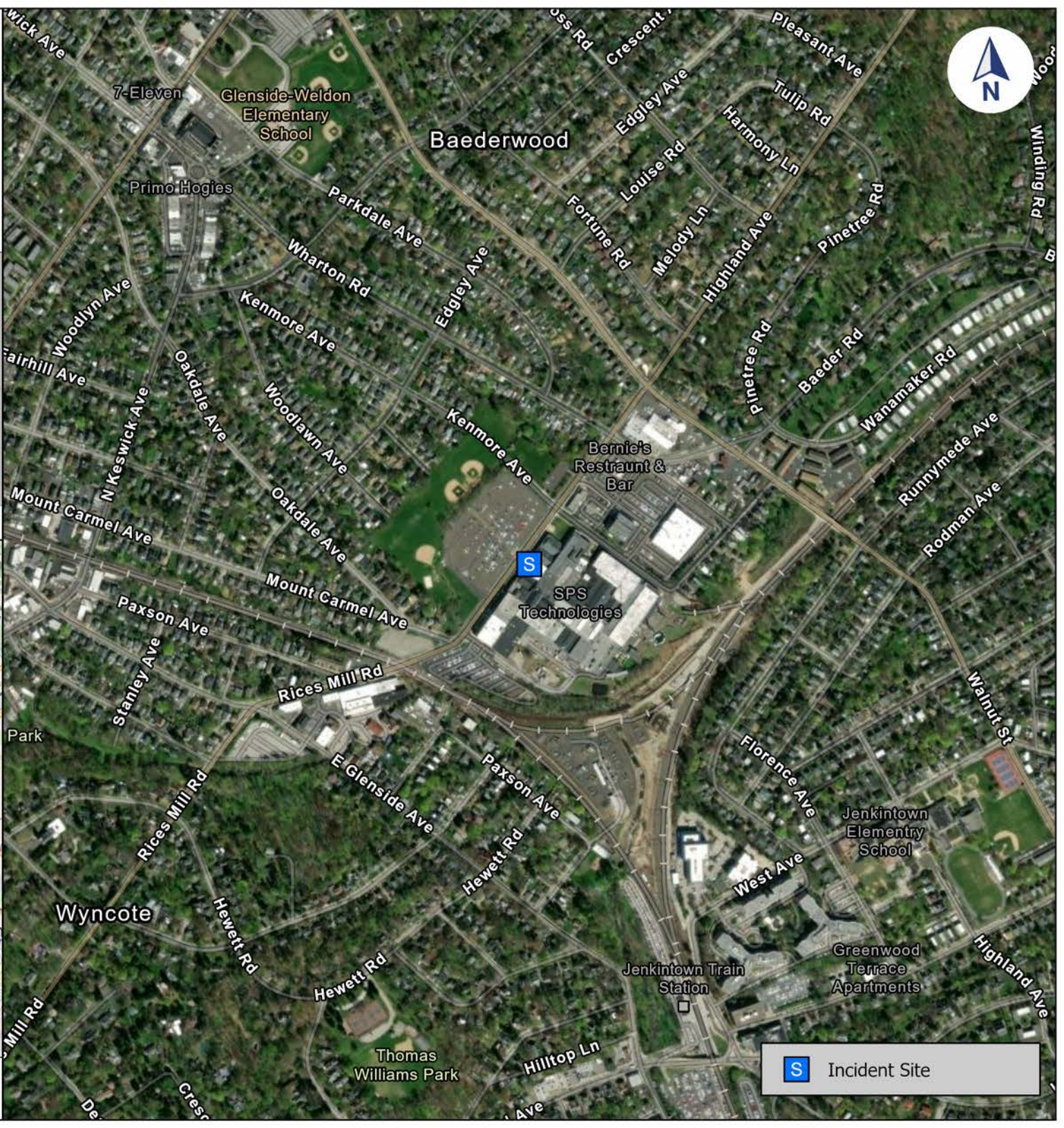
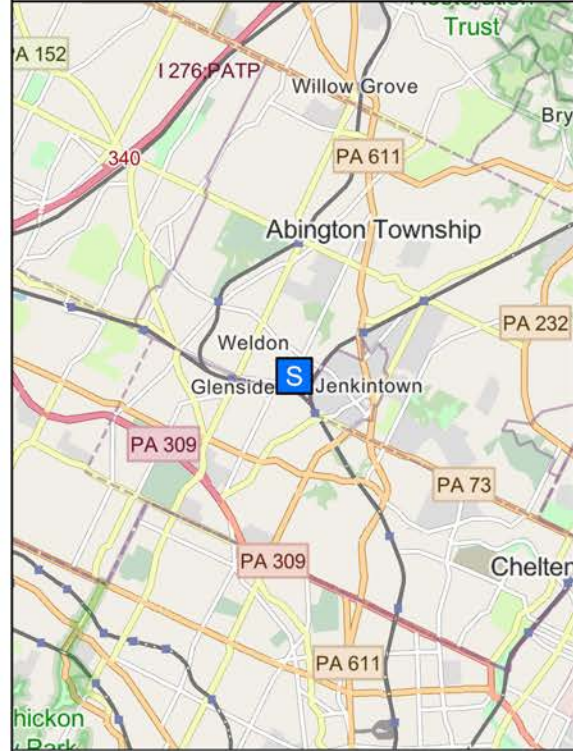
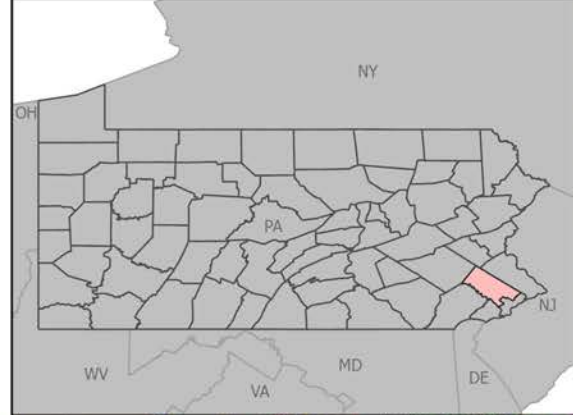
## Maps





### SPS Technologies Fire

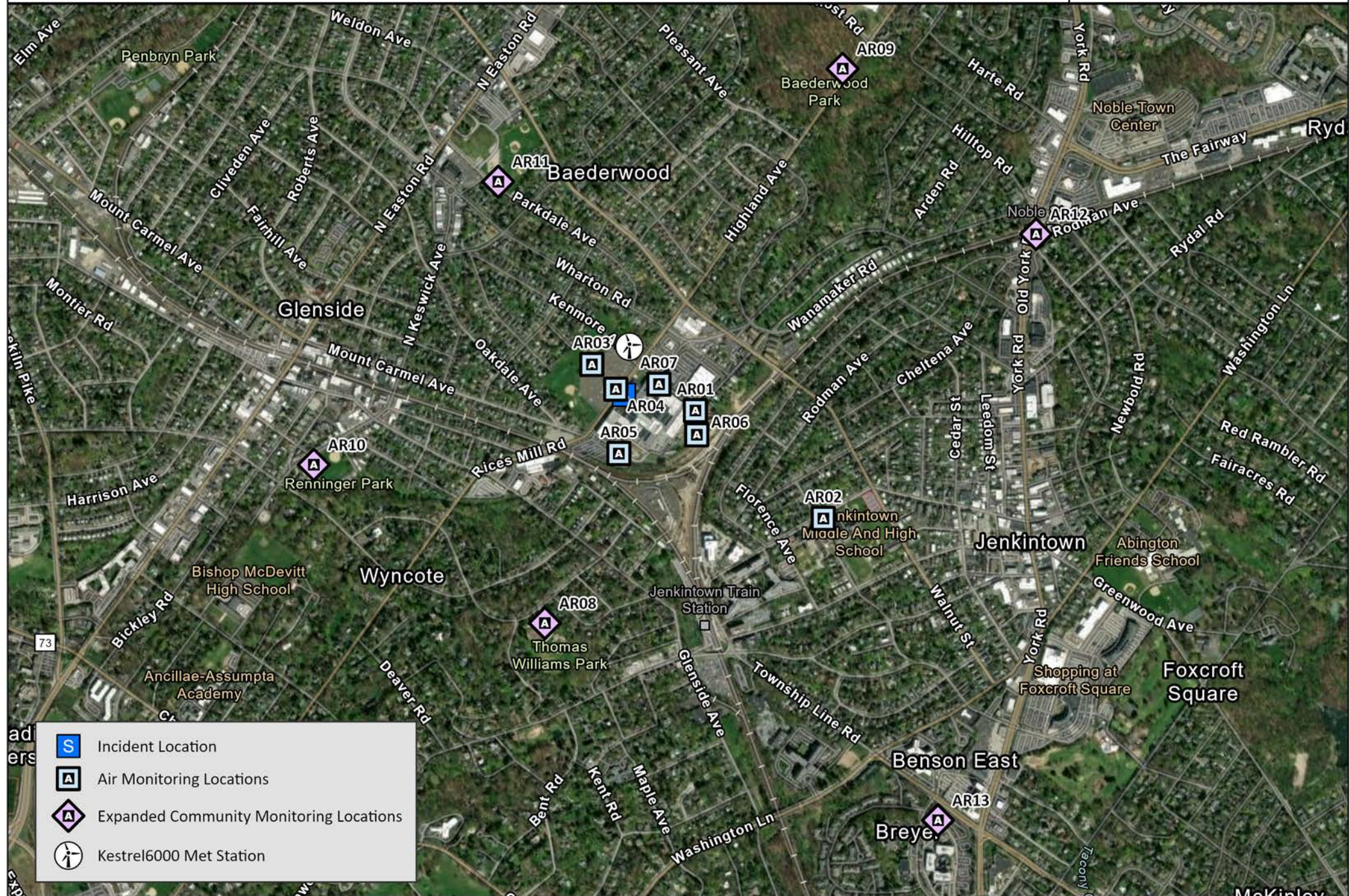
Incident Location  
Abington Township, PA | Montgomery  
County  
PROJ-052216

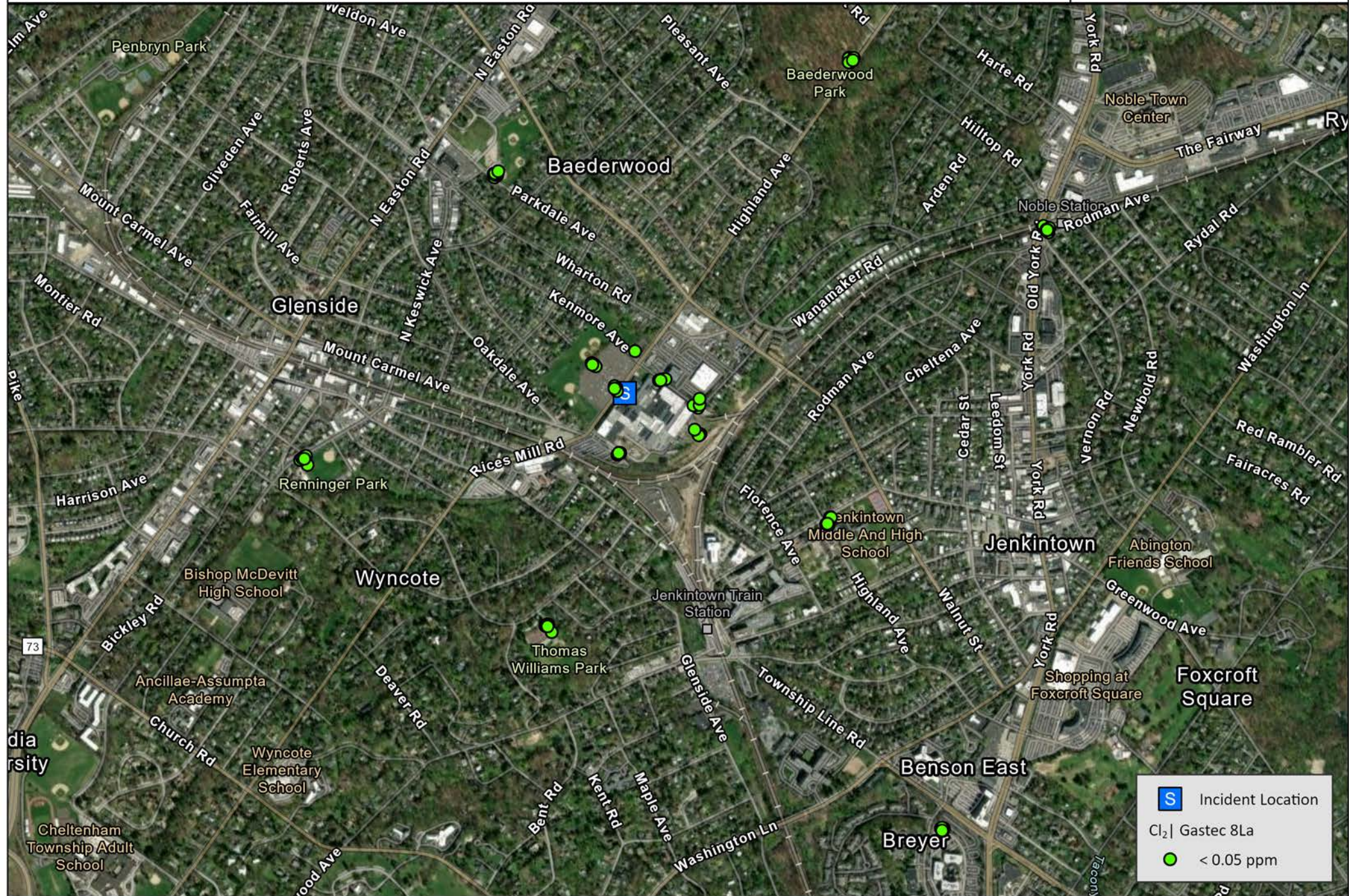


 Incident Site

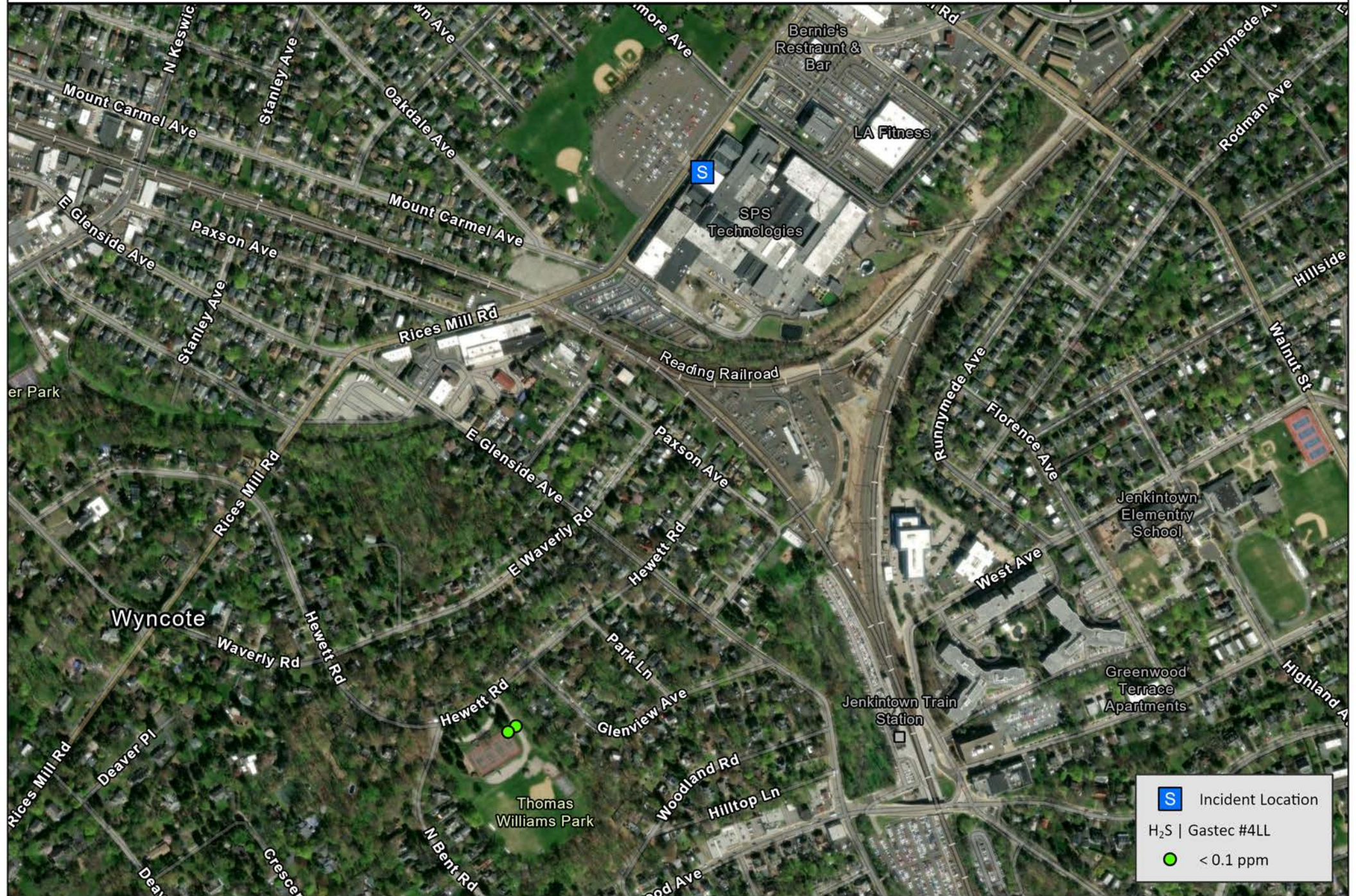
Updated At: 2/20/2025 4:59 PM


Projection: NAD 1983 2011 StatePlane Pennsylvania South  
FIPS 3702







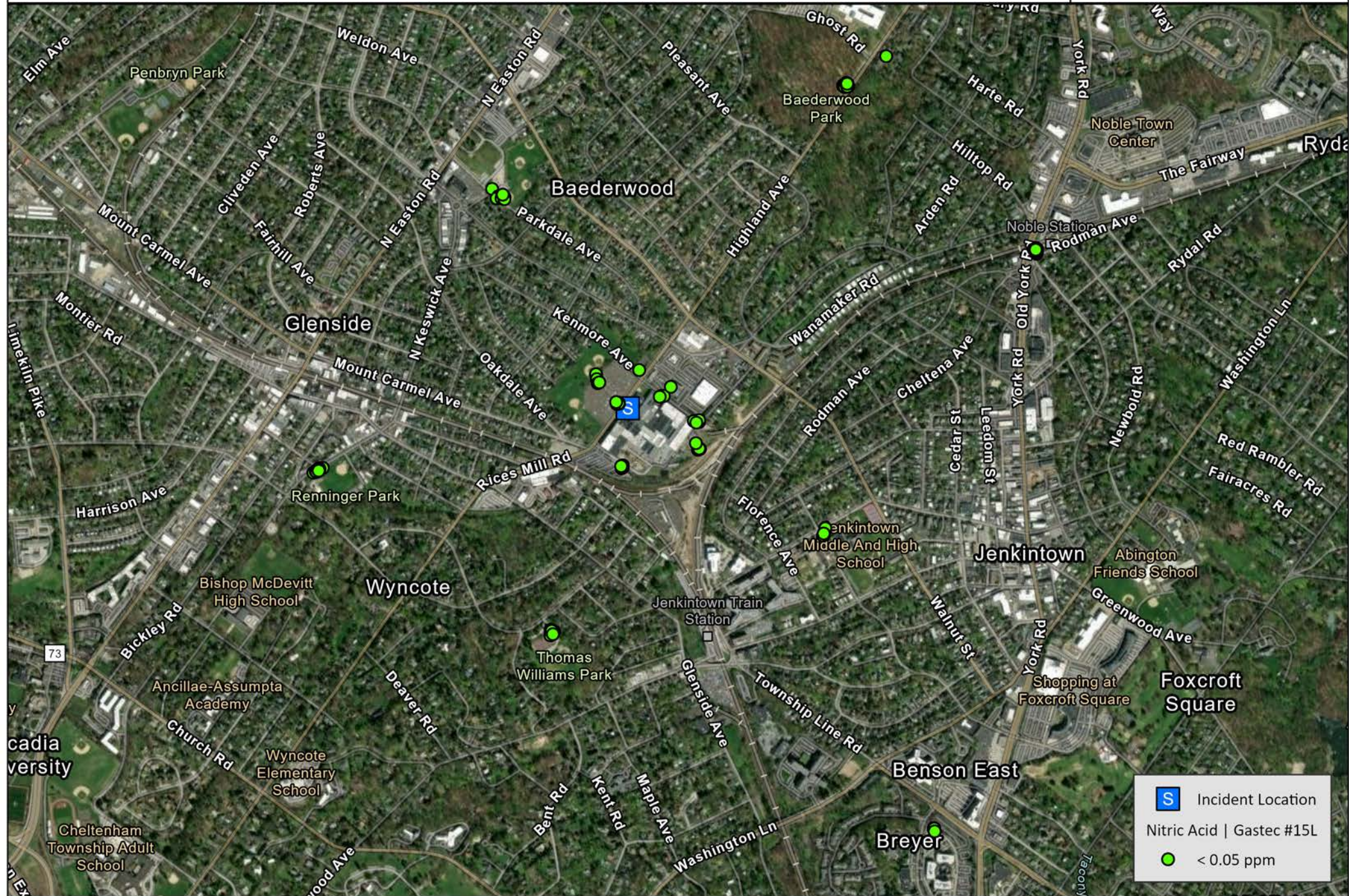
Incident Location  
Cl<sub>2</sub> | Gastec 8La  
 < 0.05 ppm



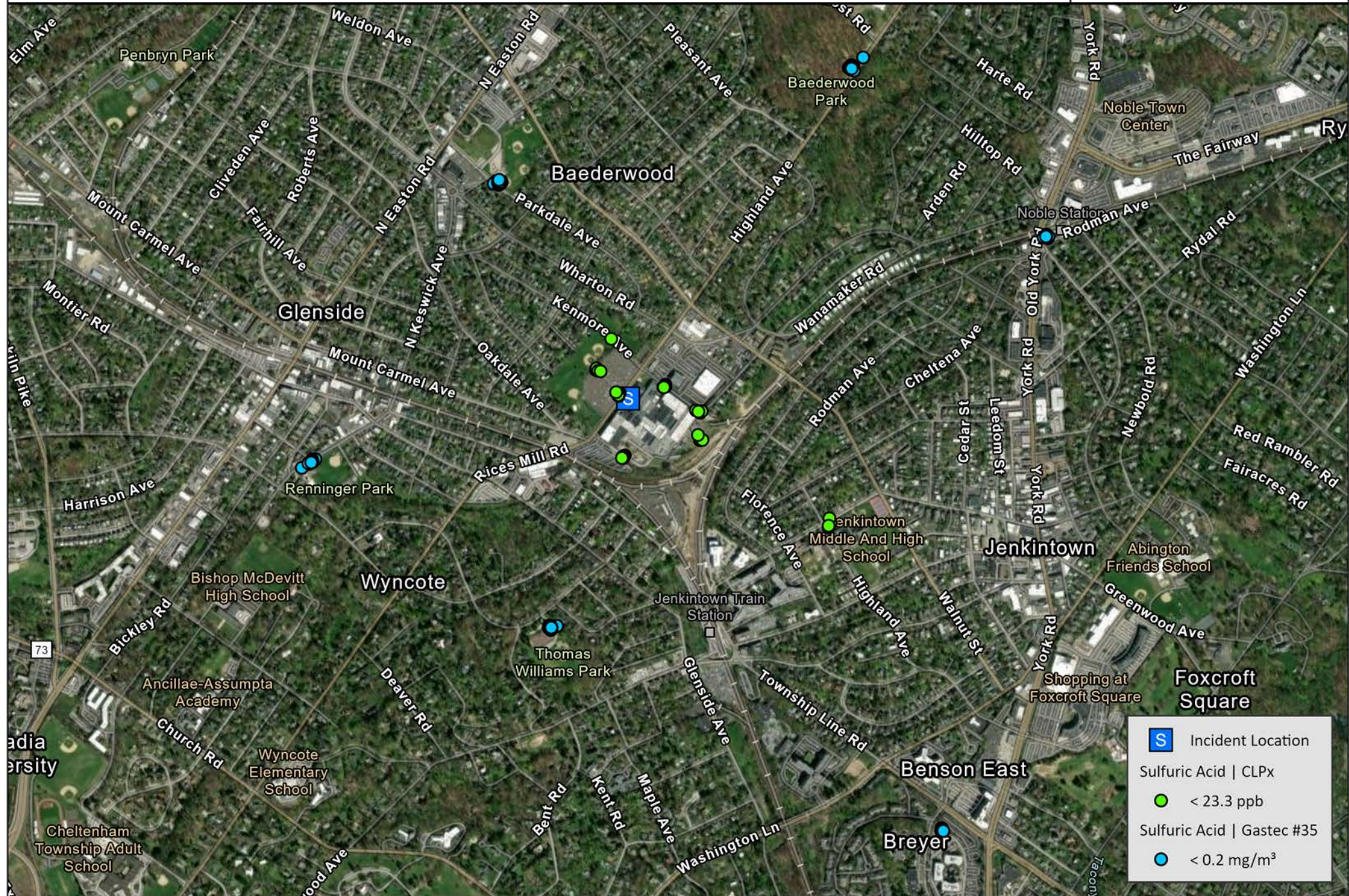
 Incident Location  
H<sub>2</sub>S | Gastec #4LL  
 < 0.1 ppm



 Incident Location  
HCN | Gastec #12L  
 < 0.1 ppm



**S** Incident Location  
Nitric Acid | Gastec #15L  
**●** < 0.05 ppm



**S** Incident Location

Sulfuric Acid | CLP<sub>x</sub>

● < 23.3 ppb

Sulfuric Acid | Gastec #35

● < 0.2 mg/m<sup>3</sup>

# Attachment B

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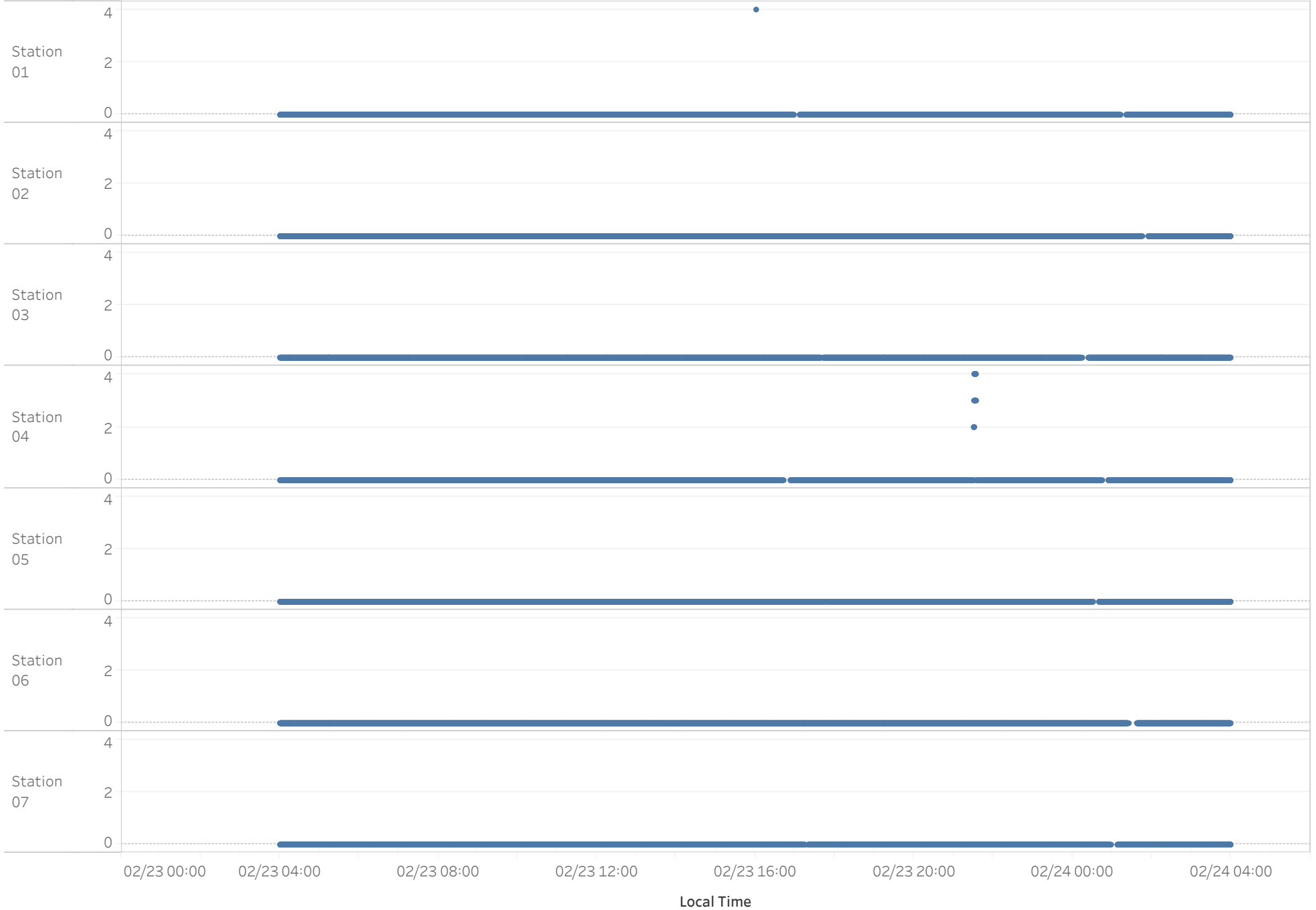
## Stationary Real-Time Perimeter Monitoring Graphs



# Preliminary Remote-telemetered Real-time Air Monitoring Readings

PROJ-052216 | SPS Technologies Fire | Abington Township, PA

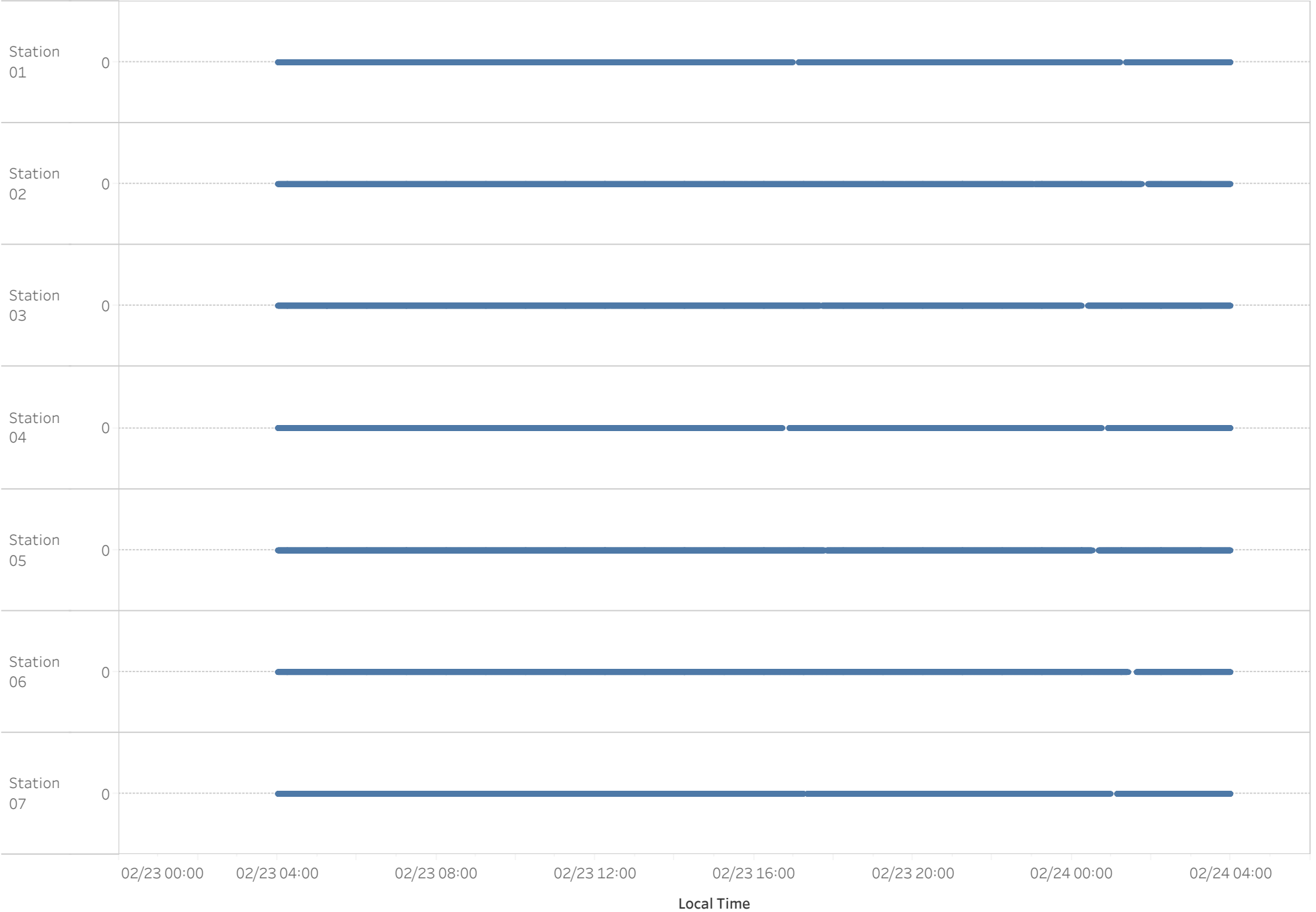
2/23/2025 3:59:42 AM to 2/24/2025 3:58:38 AM | **Analyte: CO (ppm)**



# Preliminary Remote-telemetered Real-time Air Monitoring Readings

PROJ-052216 | SPS Technologies Fire | Abington Township, PA

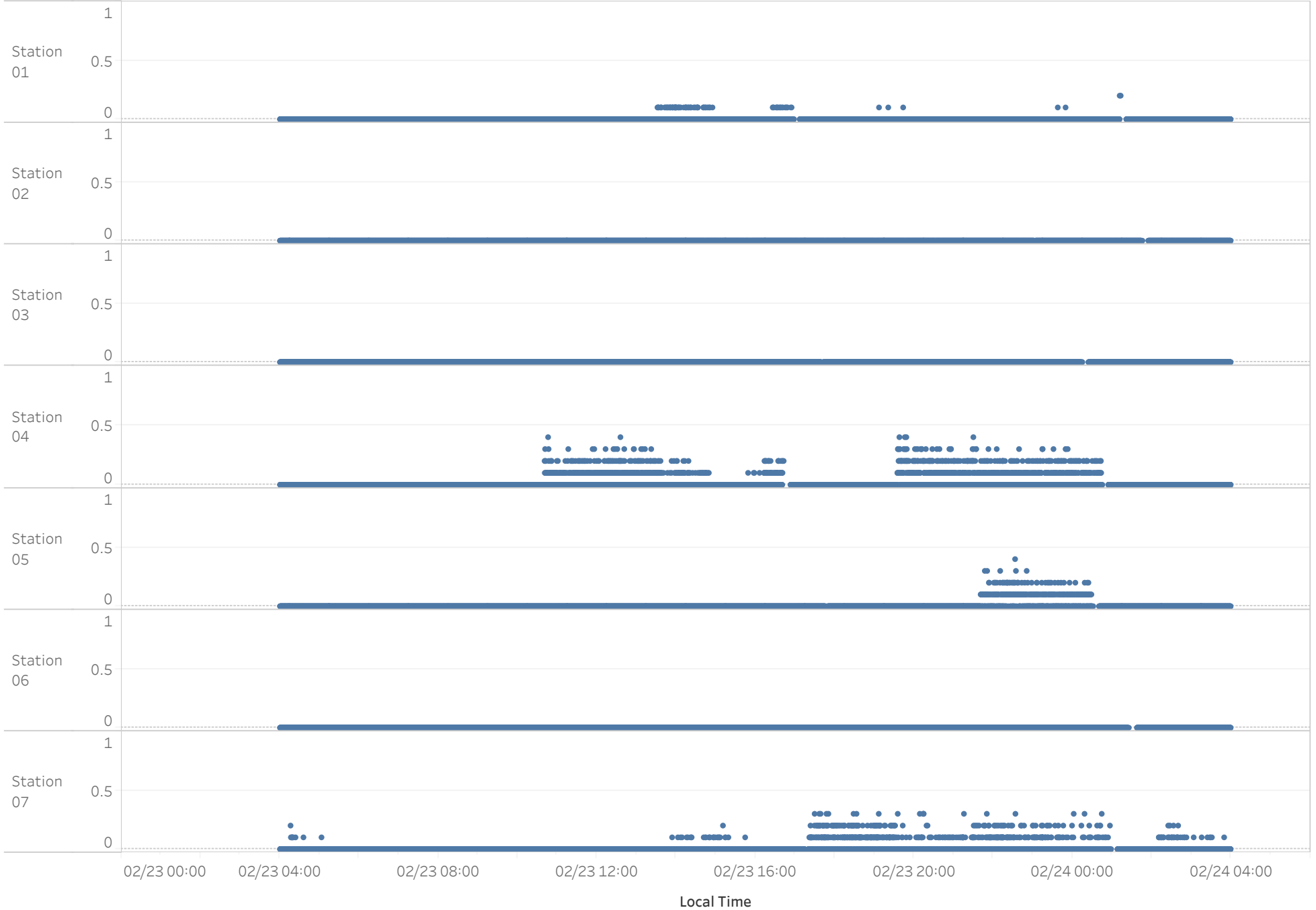
2/23/2025 3:59:42 AM to 2/24/2025 3:58:38 AM | **Analyte: H2S (ppm)**



# Preliminary Remote-telemetered Real-time Air Monitoring Readings

PROJ-052216 | SPS Technologies Fire | Abington Township, PA

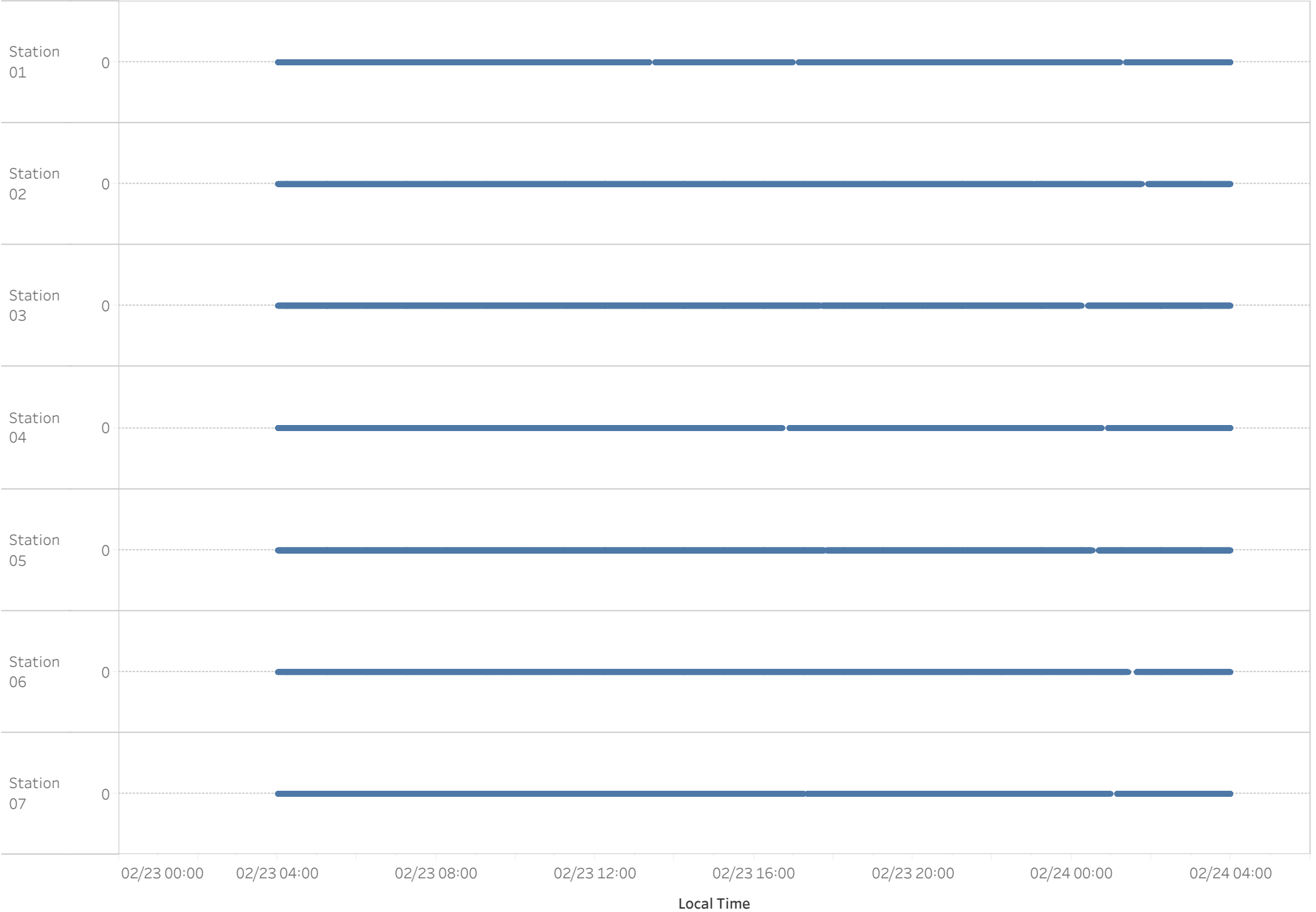
2/23/2025 3:59:42 AM to 2/24/2025 3:58:38 AM | Analyte: HCN (ppm)



# Preliminary Remote-telemetered Real-time Air Monitoring Readings

PROJ-052216 | SPS Technologies Fire | Abington Township, PA

2/23/2025 3:59:42 AM to 2/24/2025 3:58:38 AM | **Analyte: LEL (%)**

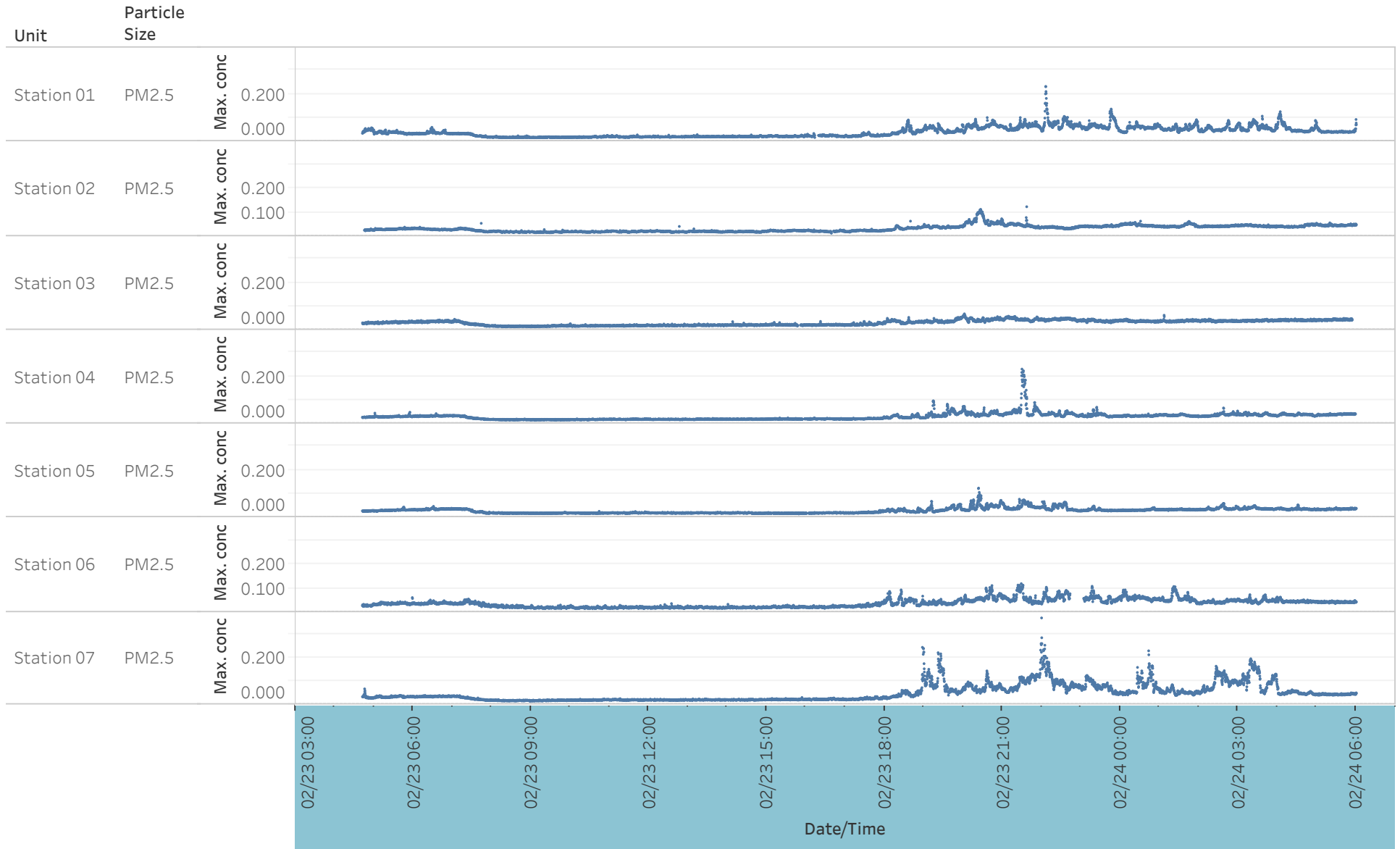




# PROJ-052216 | PM2.5 Graph

SPS Technologies Fire | Abington Township, PA

02/23 04:42 to 02/24 05:59



# PROJ-052216 Summary Table | PM2.5

Unit	Particle Size	Count of Records	Count of Detections	Min. concentration	Max. concentration	Avg. concentration
Station 01	PM2.5	6,050	6,050	0.015	0.231	0.039
Station 02	PM2.5	6,044	6,044	0.013	0.123	0.033
Station 03	PM2.5	6,028	6,028	0.013	0.068	0.031
Station 04	PM2.5	6,053	6,053	0.015	0.230	0.030
Station 05	PM2.5	6,053	6,053	0.014	0.123	0.028
Station 06	PM2.5	5,980	5,980	0.015	0.119	0.037
Station 07	PM2.5	6,055	6,055	0.015	0.371	0.049

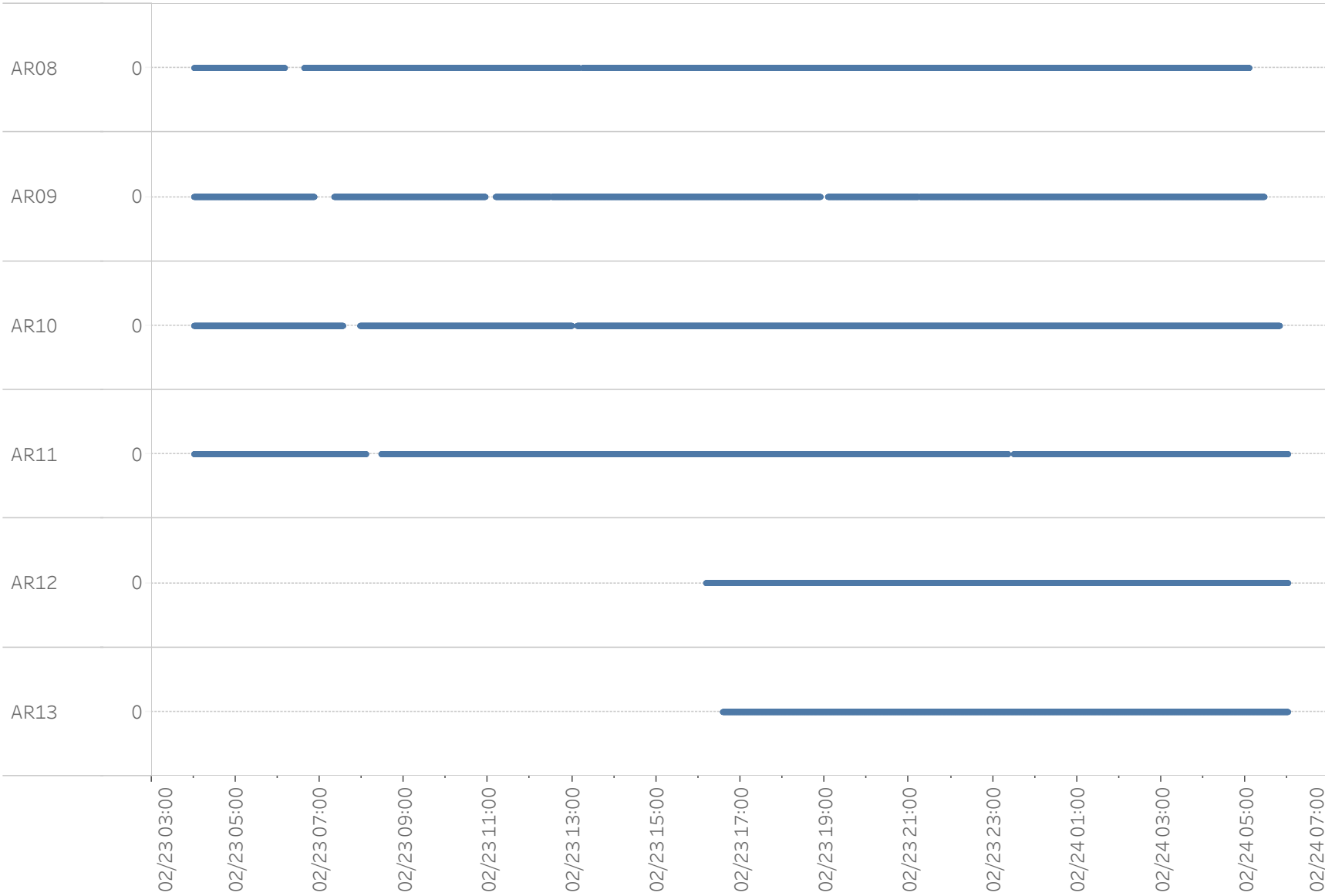
# Attachment C

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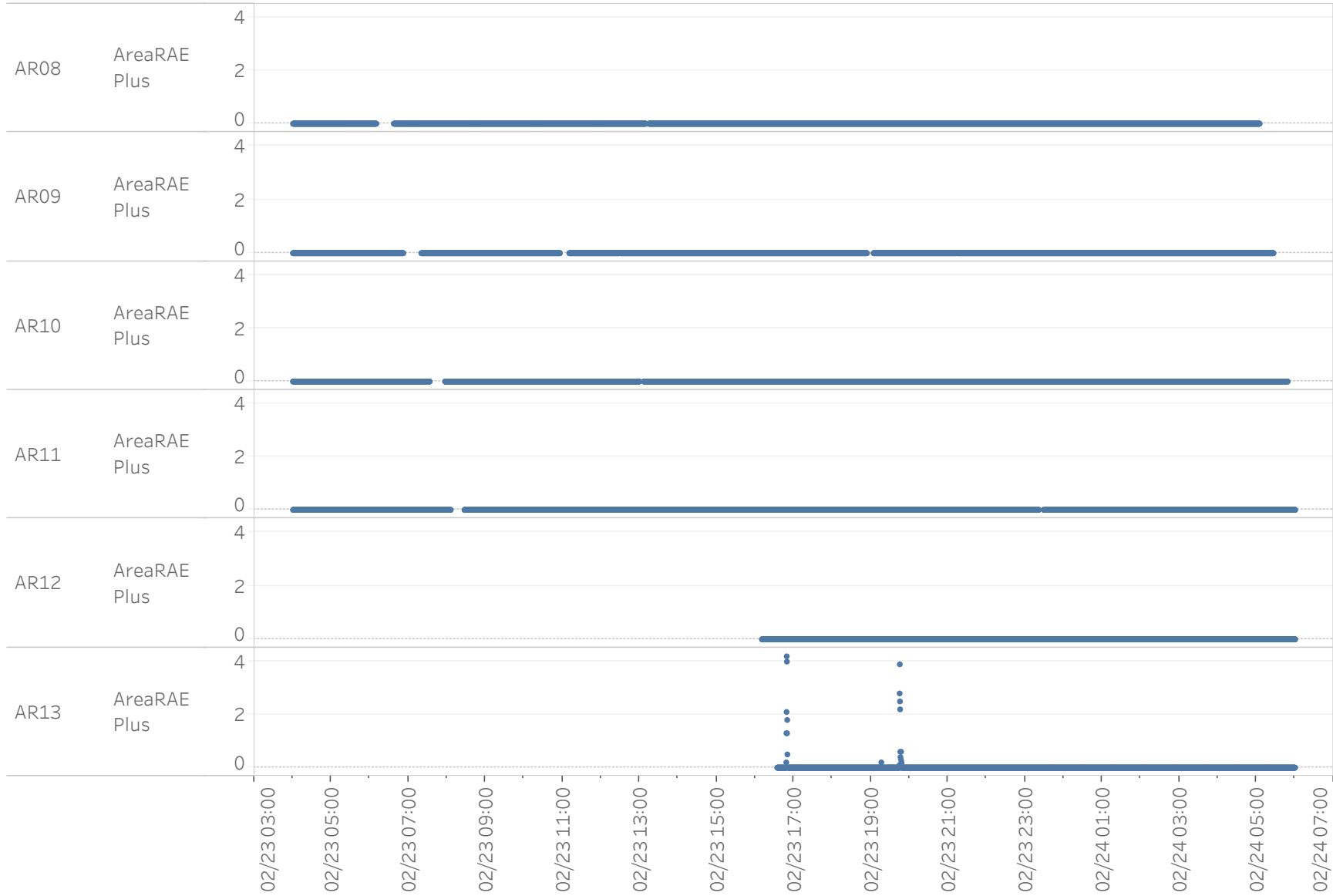
## Stationary Real-Time Expanded Community Monitoring Graphs



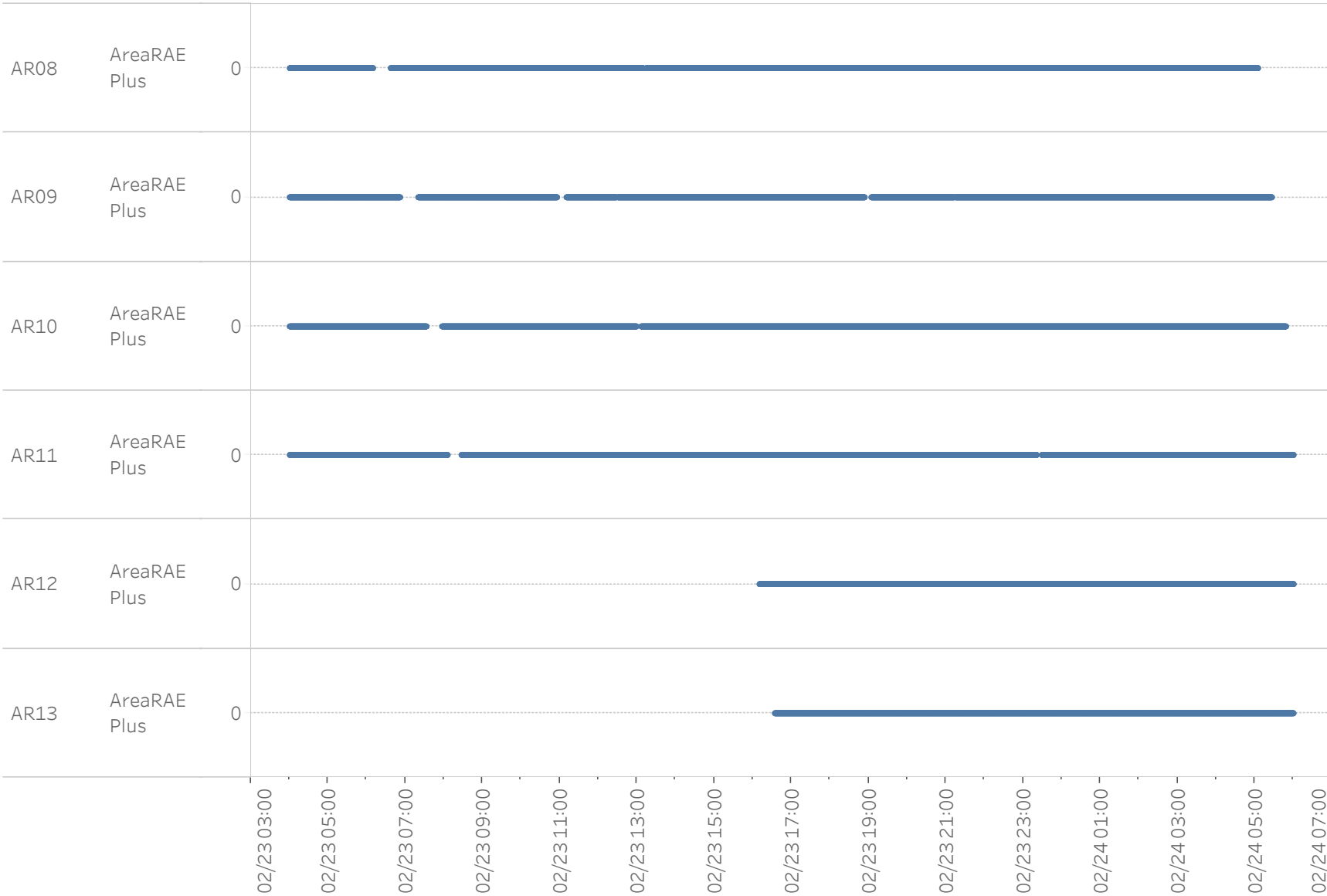
Preliminary Remote-telemetered Real-time Air Monitoring Readings  
PROJ-052216 | Expanded Community | SPS Technologies Fire | Abington Township, PA  
2/23/2025 4:00:02 AM to 2/24/2025 5:59:56 AM | **Analyte: CO (ppm)**



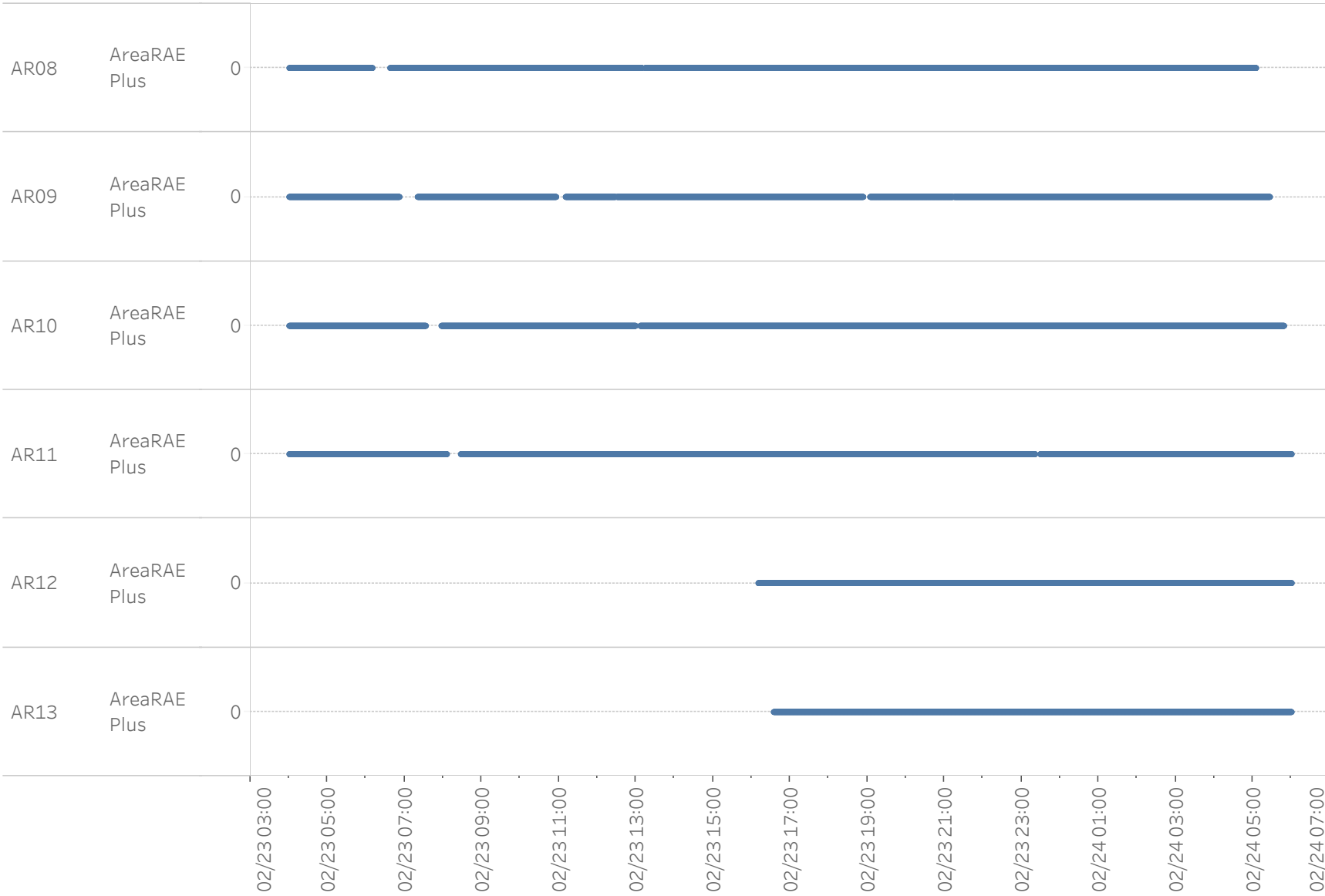
Preliminary Remote-telemetered Real-time Air Monitoring Readings  
PROJ-052216 | Expanded Community | SPS Technologies Fire | Abington Township, PA  
2/23/2025 4:00:02 AM to 2/24/2025 5:59:56 AM | Analyte: H2S (ppm)



Preliminary Remote-telemetered Real-time Air Monitoring Readings  
PROJ-052216 | Expanded Community | SPS Technologies Fire | Abington Township, PA  
2/23/2025 4:00:02 AM to 2/24/2025 5:59:56 AM | **Analyte: HCN (ppm)**

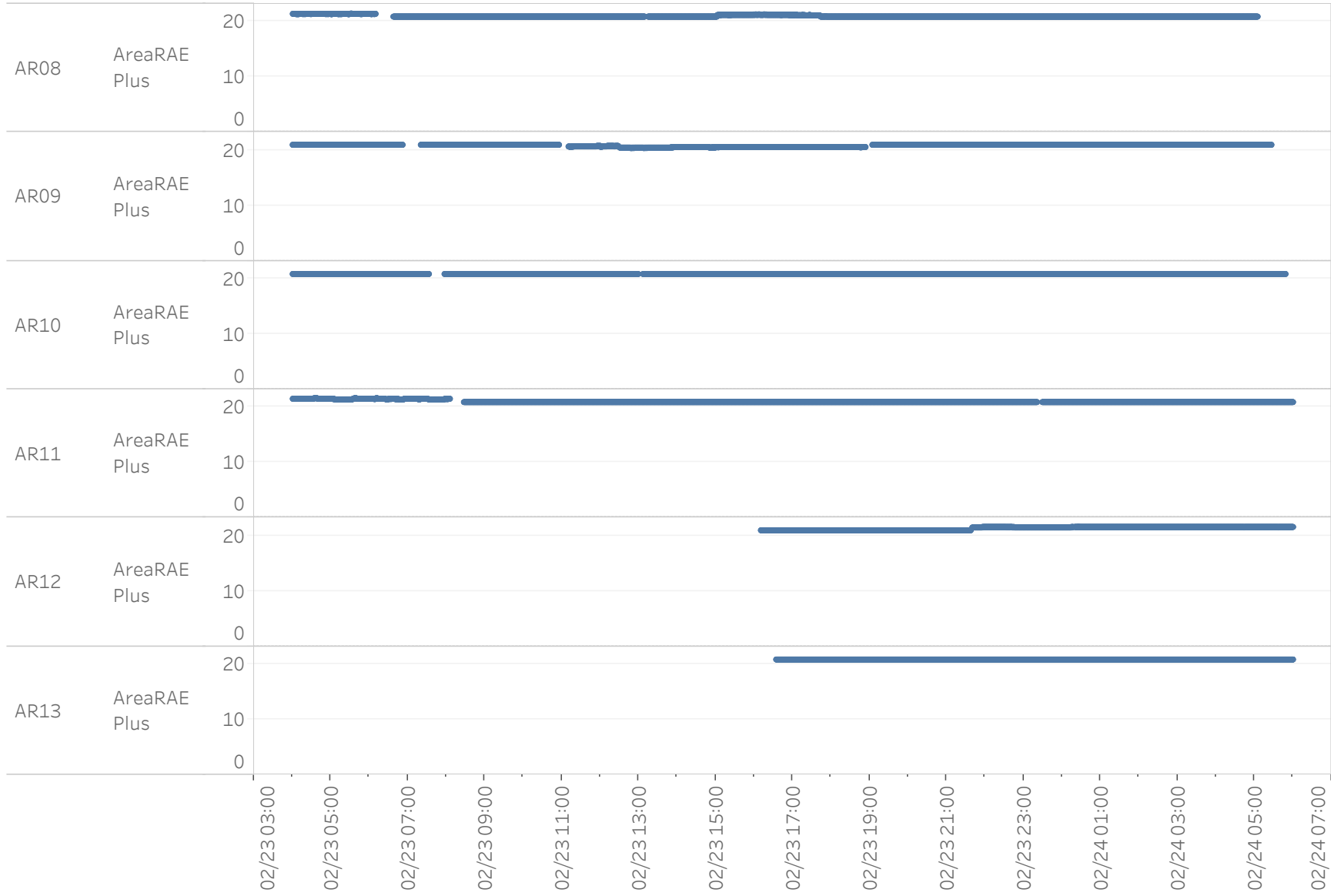


Preliminary Remote-telemetered Real-time Air Monitoring Readings  
PROJ-052216 | Expanded Community | SPS Technologies Fire | Abington Township, PA  
2/23/2025 4:00:02 AM to 2/24/2025 5:59:56 AM | **Analyte: LEL (%)**

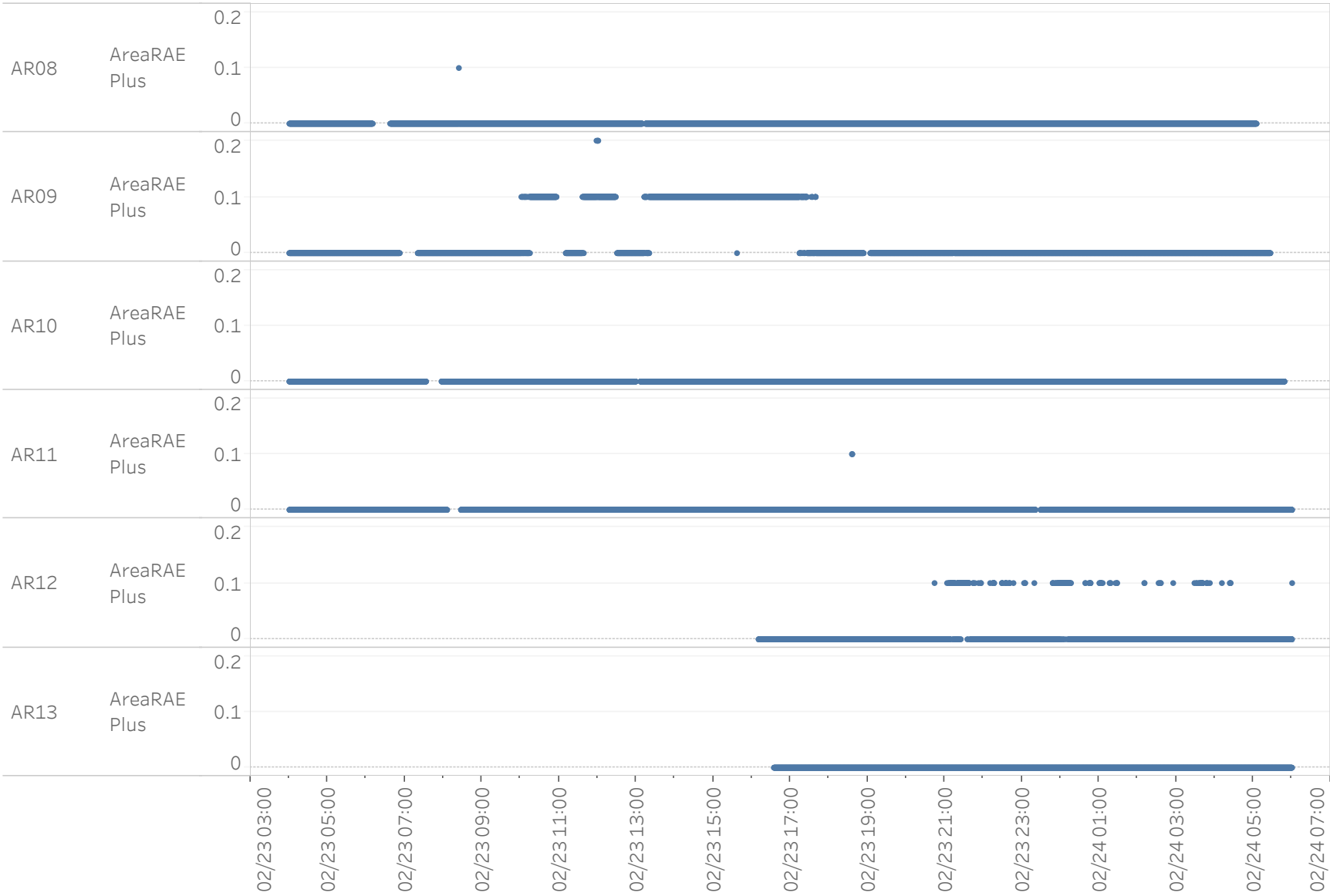


# Preliminary Remote-telemetered Real-time Air Monitoring Readings

PROJ-052216 | Expanded Community | SPS Technologies Fire | Abington Township, PA  
2/23/2025 4:00:02 AM to 2/24/2025 5:59:56 AM | **Analyte: OXY (%)**



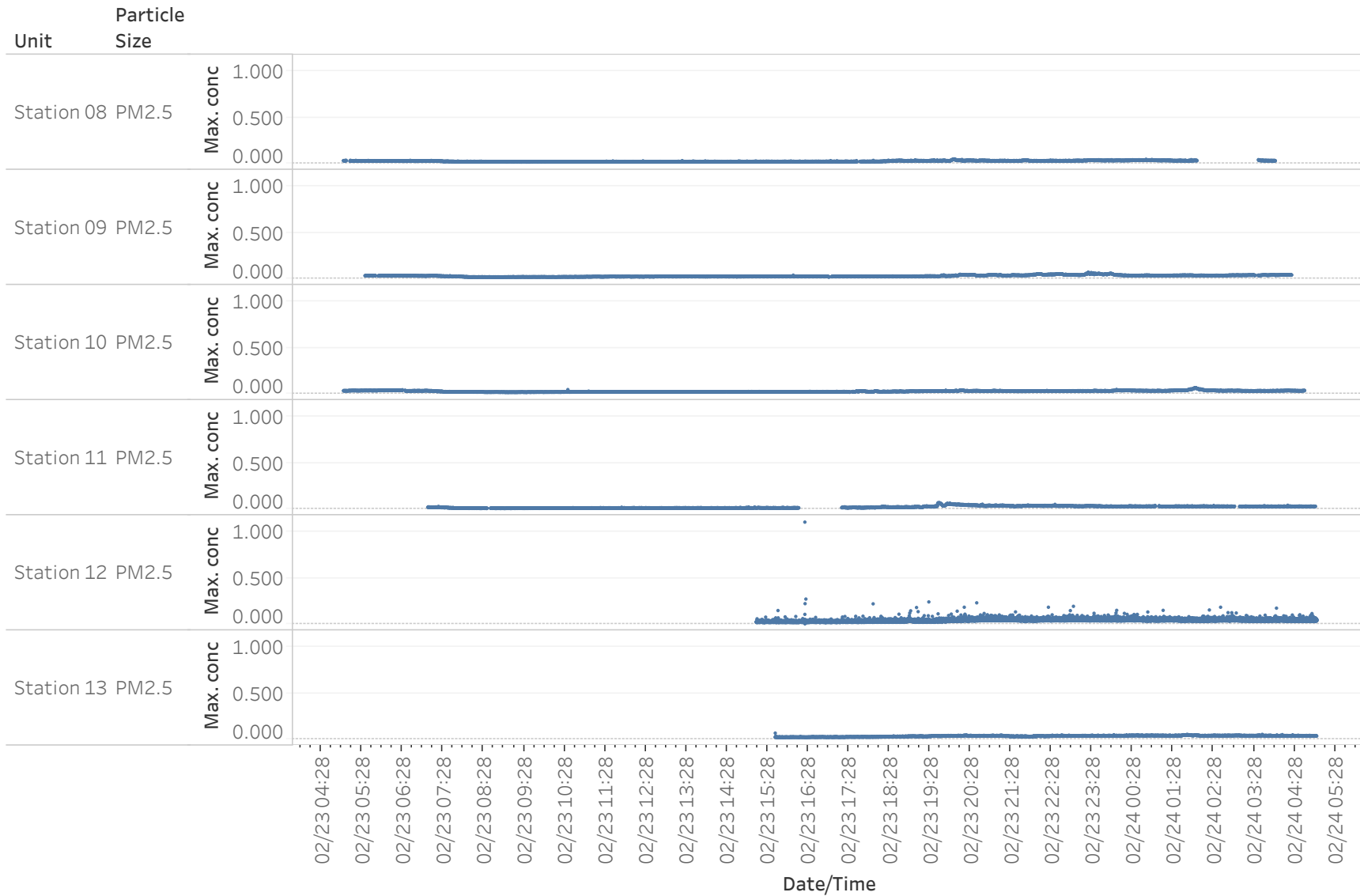
Preliminary Remote-telemetered Real-time Air Monitoring Readings  
PROJ-052216 | Expanded Community | SPS Technologies Fire | Abington Township, PA  
2/23/2025 4:00:02 AM to 2/24/2025 5:59:56 AM | Analyte: VOCs (ppm)



# PROJ-052216 | PM2.5 Graph | Expanded Community

SPS Technologies Fire | Abington Township, PA

02/23 05:00 to 02/24 05:00



# PROJ-052216 Summary Table | PM2.5 | Expanded Community

Unit	Particle Size	Count of Records	Count of Detections	Min. concentration	Max. concentration	Avg. concentration
Station 08	PM2.5	5,111	5,111	0.013	0.047	0.023
Station 09	PM2.5	5,432	5,432	0.014	0.066	0.027
Station 10	PM2.5	5,655	5,655	0.013	0.064	0.025
Station 11	PM2.5	4,933	4,933	0.002	0.065	0.018
Station 12	PM2.5	49,748	49,748	0.004	1.110	0.037
Station 13	PM2.5	3,221	3,221	0.018	0.064	0.031



# Attachment D

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## Meteorological Conditions

