CTEH®

PRELIMINARY AIR MONITORING SUMMARY

Jenkintown, PA

SPS Technologies Fire

March 15 – 16, 2025

Submitted March 17, 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. The SAP was further updated on February 26, 2025 to reflect the removal of particulate matter monitors during rain events and a change in how monitoring stations were identified. 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 approximately 0600 EDT on March 15, 2025 to approximately 0600 EDT on March 16, 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 MultiRAE Pro and 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 analytes include volatile organic compounds (VOCs), hydrogen cyanide (HCN), hydrogen sulfide (H_2S), chlorine (Cl_2),

carbon monoxide (CO), sulfuric acid, nitric acid, 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 ($PM_{2.5}$) was conducted using TSI SidePak AM520 instruments.

Stationary air monitoring equipment is subject to drift events, which are 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. Common sources of drift include impacts from humidity, temperature changes, and issues with instrument batteries. These drift sources may cause air monitoring equipment to report consistent, low-level detections in the absence of chemicals present in the air.

In total, CTEH has established fifteen stationary real-time air monitoring locations as part of this response. Six air monitoring stations were installed around the perimeter of the impacted facility. The remaining nine monitoring stations were established in the communities surrounding the impacted facility, including schools and parks. These locations include Baederwood Park, the Glenside Youth Athletic Club Baseball Fields, the Noble Train Station, Jenkintown Middle/High School, Salus University, Thomas Williams Park, Curtis Arboretum, Arcadia University, and Glenn Memorial Hall.

3.0 AIR MONITORING RESULTS

Maps of the incident location, real-time air monitoring results, and the locations of stationary real-time air monitoring locations are provided in **Attachment A**. The results of handheld real-time air monitoring are summarized in **Table 1**. The results of stationary real-time air monitoring from the perimeter locations are summarized in **Tables 2 and 3**. The results of the stationary real-time air monitoring from the community locations are summarized in **Tables 4 and 5**. 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 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 †

Analyte	Instrument	Number of Readings	Number of Detections	Concentration Range*
Cl_2	CLPx Cassette 1-560-070	112	0	< 44 ppb
	MultiRAE	30	0	< 0.1 ppm
H_2S	MultiRAE	15	0	< 0.1 ppm
Nitric Acid	Gastec #15L	202	0	< 0.05 ppm
Sulfuric Acid	CLPx Cassette 1-410-070	58	0	< 23.3 ppb
	Gastec #35	144	0	< 0.2 mg/m³

†Note: This is a preliminary data summary, indicating that the data provided has 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 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†

Unit	Analyte	Number of Readings	Number of Detections	Concentration Range*
Station 01	CO	5,702	0	< 1.0 ppm
	H_2S	5,702	0	< 0.1 ppm
	HCN	5,702	0	< 1.0 ppm
	%LEL	5,702	0	< 1.0 %
	VOCs	5,702	30	0.1 ppm
Station 03	CO	5,704	6	2.0 - 8.0 ppm
	H_2S	5,704	0	< 0.1 ppm
	HCN	5,704	0	< 1.0 ppm
	%LEL	5,704	0	< 1.0 %
	VOCs	5,704	0	< 0.1 ppm
Station 04	CO	5,734	0	< 1.0 ppm
	H_2S	5,734	0	< 0.1 ppm
	HCN	5,734	0	< 1.0 ppm
	%LEL	5,734	0	< 1.0 %
	VOCs	5,734	4	0.1 ppm

Station 05	CO	5,719	2	4.0 - 5.0 ppm
	H_2S	5,719	0	< 0.1 ppm
	HCN	5,719	0	< 1.0 ppm
	%LEL	5,719	0	< 1.0 %
	VOCs	5,719	0	< 0.1 ppm
Station 06	CO	5,696	5	2.0 - 21.0 ppm
	H_2S	5,696	0	< 0.1 ppm
	HCN	5,696	0	< 1.0 ppm
	%LEL	5,696	0	< 1.0 %
	VOCs	5,696	4	0.1 ppm
Station 07	CO	5,704	1	3.0 ppm
	H_2S	5,704	0	< 0.1 ppm
	HCN	5,704	0	< 1.0 ppm
	%LEL	5,704	0	< 1.0 %
	VOCs	5,704	15	0.1 ppm

†Note: This is a preliminary data summary, indicating that the data provided has not undergone full quality assurance and quality control (QAQC) process and should be considered preliminary at this time. AreaRAE monitoring data contains 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 $PM_{2.5}$ Results†

Unit	Instrument	24-Hour $PM_{2.5}$ NAAQS	Average $PM_{2.5}$ Concentration (mg/m^3)
Station 1	AM520	0.035	0.020
Station 3	AM520	0.035	0.021
Station 4	AM520	0.035	0.019
Station 5	AM520	0.035	0.017
Station 6	AM520	0.035	0.019
Station 7	AM520	0.035	0.021

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

During stationary real-time perimeter air monitoring, there were no detections of H_2S, HCN or %LEL at any air monitoring station. Transient, low-level detections of CO were observed at Stations 3, 5, 6, and 7. These detections may be attributed to asphalt cutting operations and heavy equipment/vehicles operating at the impacted facility. During this reporting period, $PM_{2.5}$ monitoring was paused at approximately 0010 EDT due to heavy condensing fog and high humidity (>95%), which are outside the instrument's operating conditions according to the manufacturer (**Attachment E**). There were no elevated average $PM_{2.5}$ concentrations observed in the perimeter monitoring locations during this reporting period.

3.3 Stationary Real-Time Expanded Community Air Monitoring Results

Table 4. Summary of Stationary Real-Time Expanded Community Air Monitoring AreaRAE Results†

Unit	Analyte	Count of Readings	Count of Detections	Range of Detections
Station 02	CO	5,486	0	< 1.0 ppm
	H_2S	5,486	0	< 0.1 ppm
	HCN	5,486	0	< 1.0 ppm
	LEL	5,486	0	< 1.0 %
	VOCs	5,486	0	< 0.1 ppm
Station 08	CO	5,405	0	< 1.0 ppm
	H_2S	5,405	0	< 0.1 ppm
	HCN	5,405	0	< 1.0 ppm
	LEL	5,405	0	< 1.0 %
	VOCs	5,339	0	< 0.1 ppm
Station 09	CO	5,661	0	< 1.0 ppm
	H_2S	5,661	0	< 0.1 ppm
	HCN	5,661	0	< 1.0 ppm
	LEL	5,661	0	< 1.0 %
	VOCs	5,661	0	< 0.1 ppm
Station 10	CO	5,575	0	< 1.0 ppm
	H_2S	5,575	0	< 0.1 ppm
	HCN	5,575	0	< 1.0 ppm
	LEL	5,575	0	< 1.0 %
	VOCs	5,575	0	< 0.1 ppm
Station 11	CO	5,625	0	< 1.0 ppm
	H_2S	5,625	0	< 0.1 ppm
	HCN	5,625	0	< 1.0 ppm
	LEL	5,625	0	< 1.0 %
	VOCs	5,625	19	0.1 ppm
Station 12	CO	5,744	0	< 1.0 ppm
	H_2S	5,744	0	< 0.1 ppm
	HCN	5,744	0	< 1.0 ppm
	LEL	5,744	0	< 1.0 %
	VOCs	5,744	0	< 0.1 ppm
Station 13	CO	5,651	0	< 1.0 ppm
	H_2S	5,651	0	< 0.1 ppm
	HCN	5,651	0	< 1.0 ppm

	LEL	5,651	0	< 1.0 %
	VOCs	5,651	0	< 0.1 ppm
Station 14	CO	5,463	0	< 1.0 ppm
	H_2S	5,463	0	< 0.1 ppm
	HCN	5,463	0	< 1.0 ppm
	LEL	5,463	0	< 1.0 %
	VOCs	5,463	0	< 0.1 ppm
Station 15	CO	5,525	1	3.0 ppm
	H_2S	5,525	0	< 0.1 ppm
	HCN	5,525	0	< 1.0 ppm
	LEL	5,525	0	< 1.0 %
	VOCs	5,525	2	0.1 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 5: Summary of Stationary Real-Time Expanded Community Air Monitoring $PM_{2.5}$ Results †

Unit	Instrument	24-Hour $PM_{2.5}$ NAAQS	Average $PM_{2.5}$ Concentration (mg/m^3)
Station 2	AM520	0.035	0.017
Station 8	AM520	0.035	0.019
Station 9	AM520	0.035	0.021
Station 10	AM520	0.035	0.021
Station 11	AM520	0.035	0.020
Station 12	AM520	0.035	0.020
Station 13	AM520	0.035	0.020
Station 14	AM520	0.035	0.019
Station 15	AM520	0.035	0.020

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

Stationary real-time monitoring at nine locations in communities surrounding the facility indicated no detections of H_2S, HCN, or %LEL. A single low-level detection of CO was observed at Station 15. During this reporting period, $PM_{2.5}$ monitoring was paused at approximately 0010 EDT due to heavy condensing fog and high humidity (>95%), which are outside the instrument's operating conditions according to the manufacturer (**Attachment E**). There were no elevated average $PM_{2.5}$ concentrations observed in the community monitoring locations during this reporting period.

3.4 Analyte-Specific Action Levels

As part of the SAP, air monitoring action levels were identified for air monitoring detections for which on-site incident management members should be notified. The action levels identified in the SAP are provided in **Table 6**.

Table 6: Analyte-Specific Action Levels Resulting in Stakeholder Notification

		Action Levels	
Concentration Durations		**Sustained for 5 Minutes**	**Sustained for 30 Seconds**
Analyte	**CAS**	**Protective Action Criteria 1 (PAC-1)**	**½ Protective Action Criteria 2 (½ PAC-2)**
Sulfuric Acid	7664-93-9	0.05 ppm	1.1 ppm
Nitric Acid	7697-37-2	0.16 ppm	12 ppm
Hydrogen Cyanide	74-90-8	2 ppm	3.5 ppm
Hydrogen Sulfide	7783-06-4	0.51 ppm	13.5 ppm
Chlorine	7782-50-5	0.5 ppm	1.0 ppm

If any analyte exceeds the PAC-1 for 5 minutes and is confirmed with a secondary instrument or if any analyte exceeds ½ PAC-2 for 30 seconds, the CTEH monitoring personnel will immediately contact the CTEH Project Technical Director via a telephone call. The CTEH Project Technical Director will then notify a designated group of SPS representatives via group text message and individual phone calls for appropriate stakeholder notifications and emergency management decision-making.

During this reporting period, there were no action level exceedances of any analyte evaluated requiring notification of on-site incident management.

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.

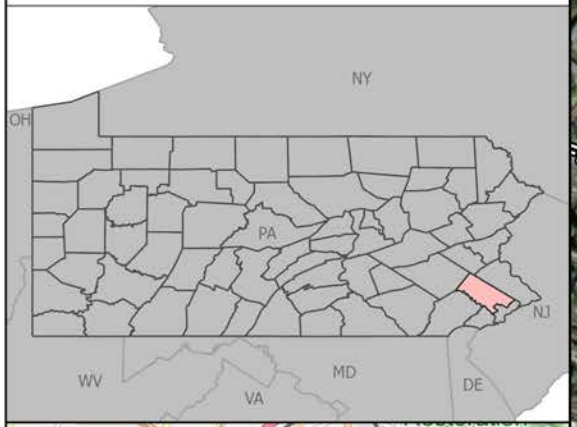
Attachment A

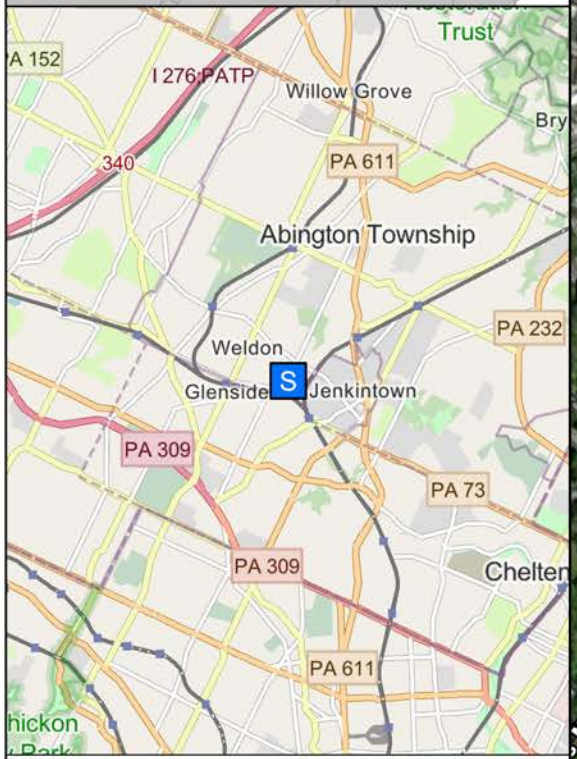
Maps

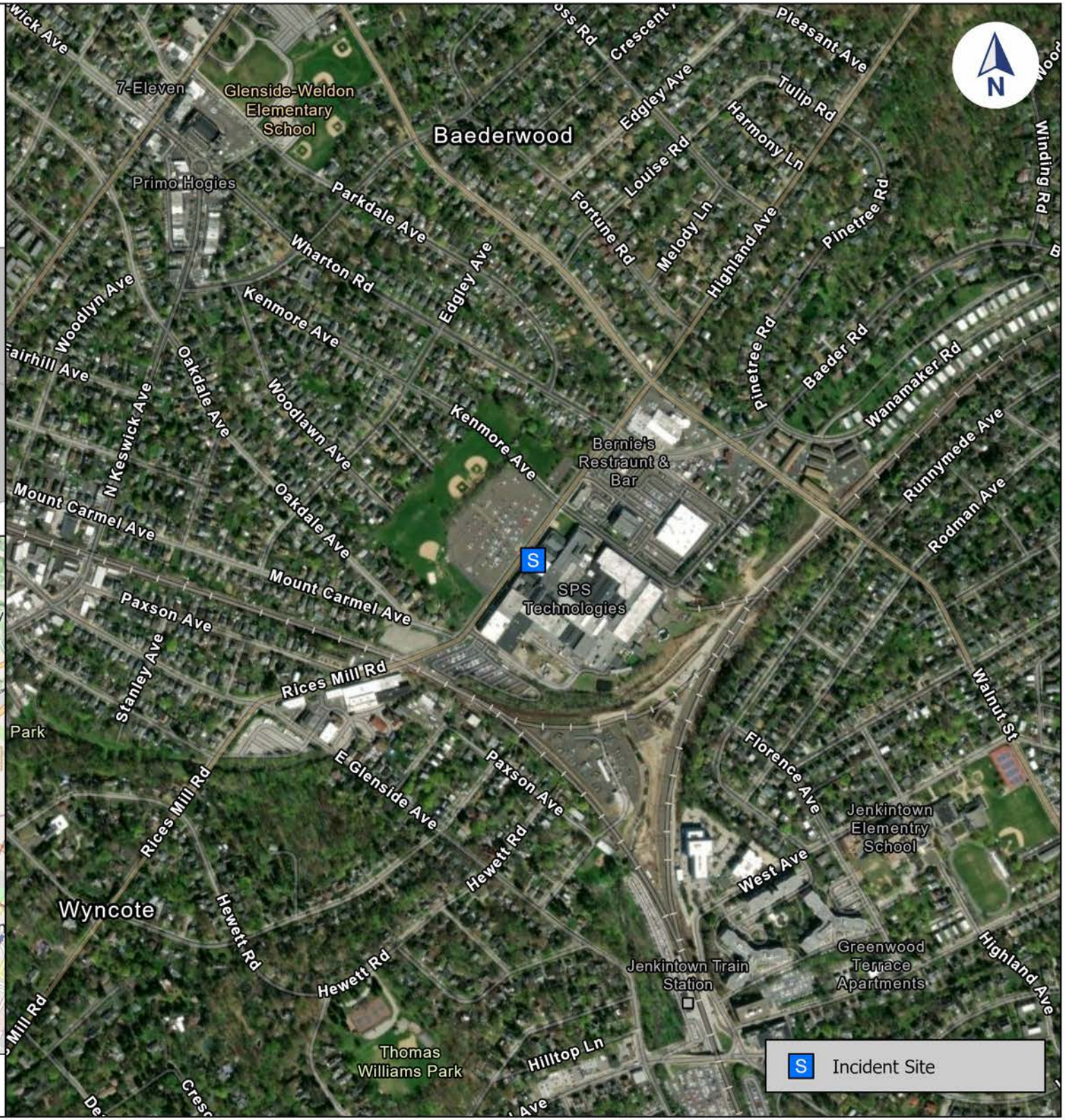
CTEH®

SPS Technologies Fire

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





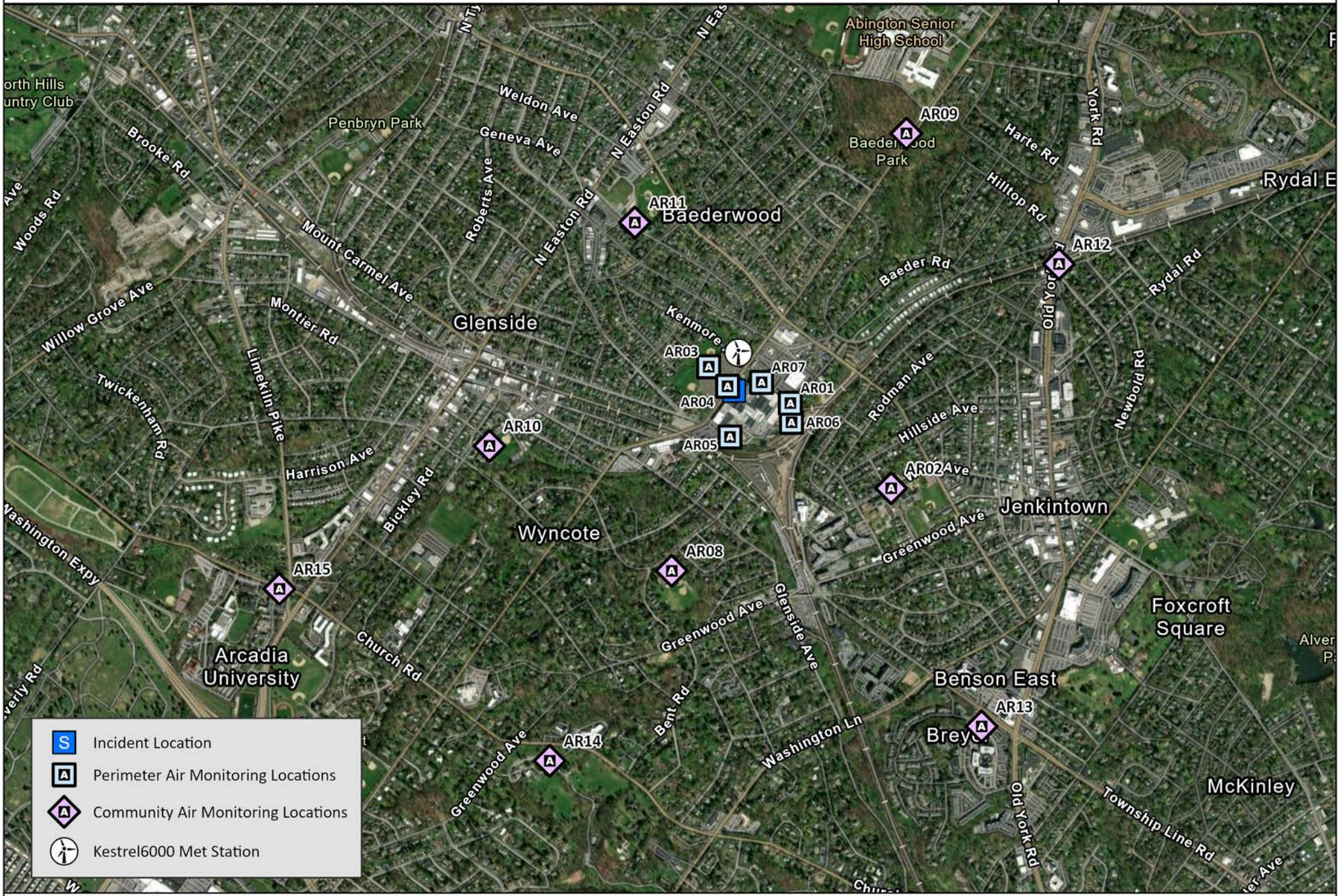


Updated At: 2/20/2025 4:59 PM
Projection: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702

CTEH® Air Monitoring Locations

SPS Technologies Fire

Project: PROJ-052216
City: Abington Township, PA
County: Montgomery



Datum: NAD 1983 2011
Projection: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 Ft US

0 1 Miles

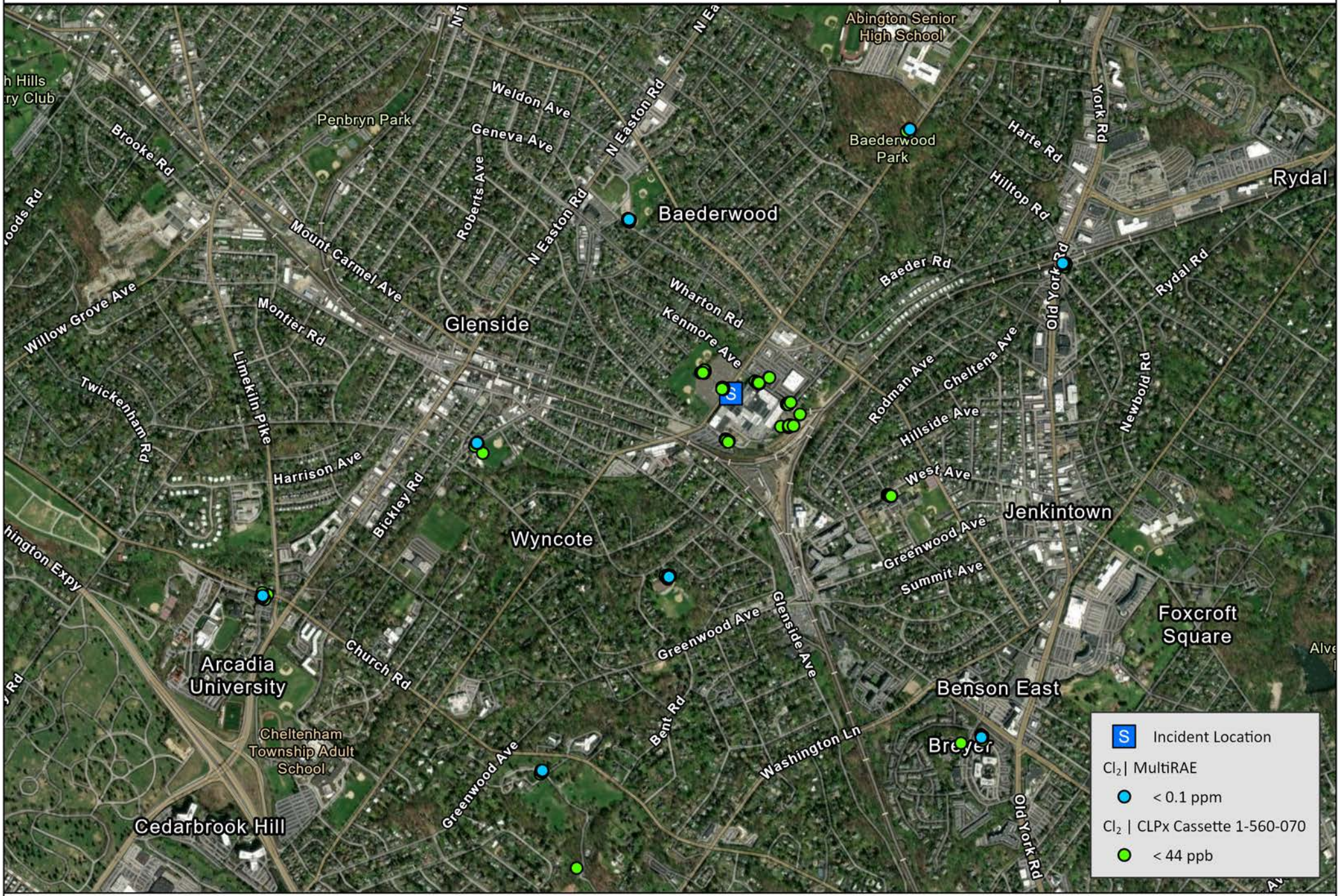
Updated at 2025-02-24 15:45

CTEH®

Handheld Real-Time Air Monitoring Locations | Community Monitoring | Cl_2

SPS Technologies Fire | 03/15/2025 06:00 to 03/16/2025 06:00 EDT

Project: PROJ-052216
City: Abington Township, PA
County: Montgomery



Datum: NAD 1983 2011
Projection: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702

0 1,000 Feet

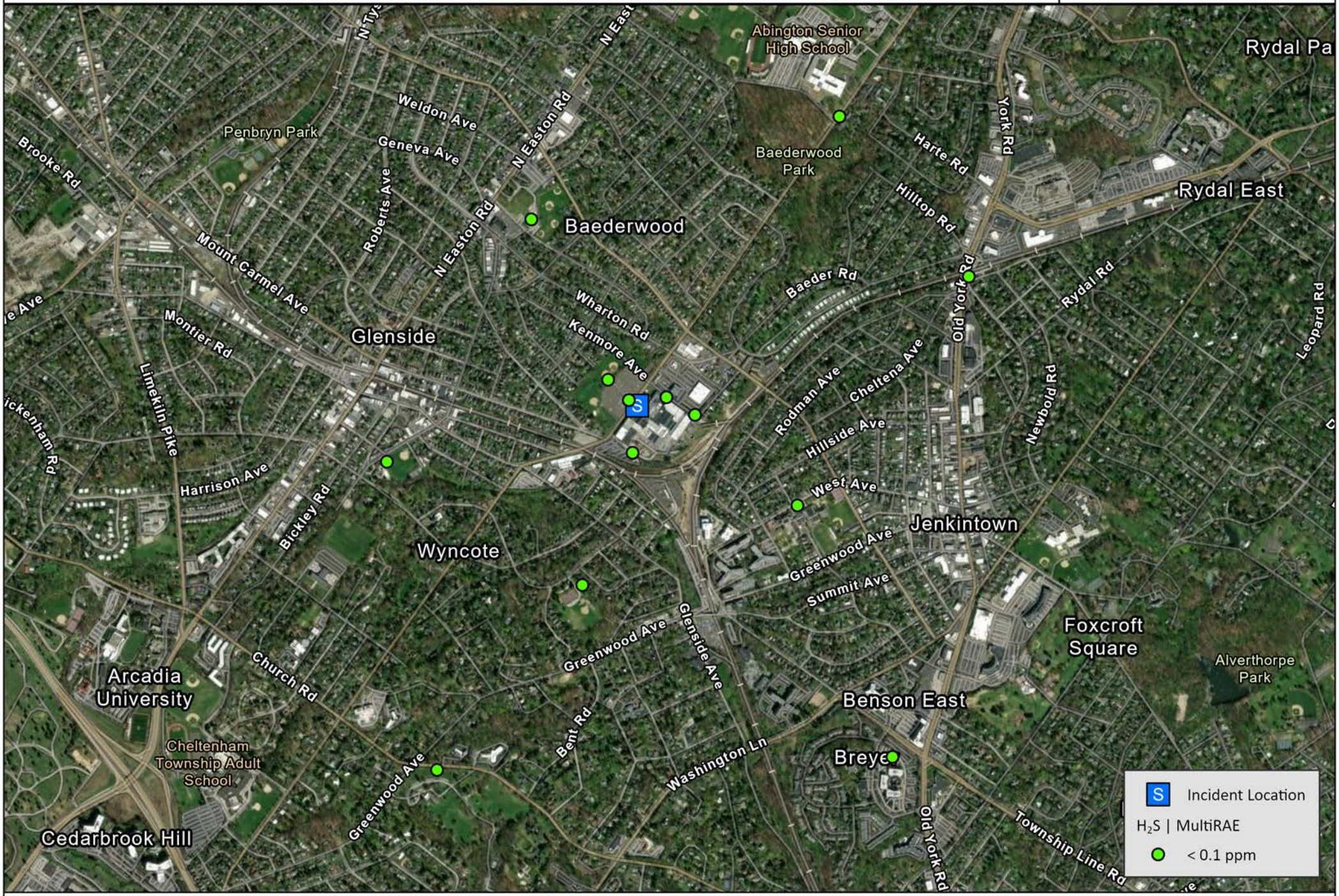
Updated At: 3/16/2025 10:46 AM

CTEH®

Handheld Real-Time Air Monitoring Locations | Community Monitoring | H_2S

SPS Technologies Fire | 03/15/2025 06:00 to 03/16/2025 06:00 EDT

Project: PROJ-052216
City: Abington Township, PA
County: Montgomery



Datum: NAD 1983 2011
Projection: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702

0 1,000 Feet

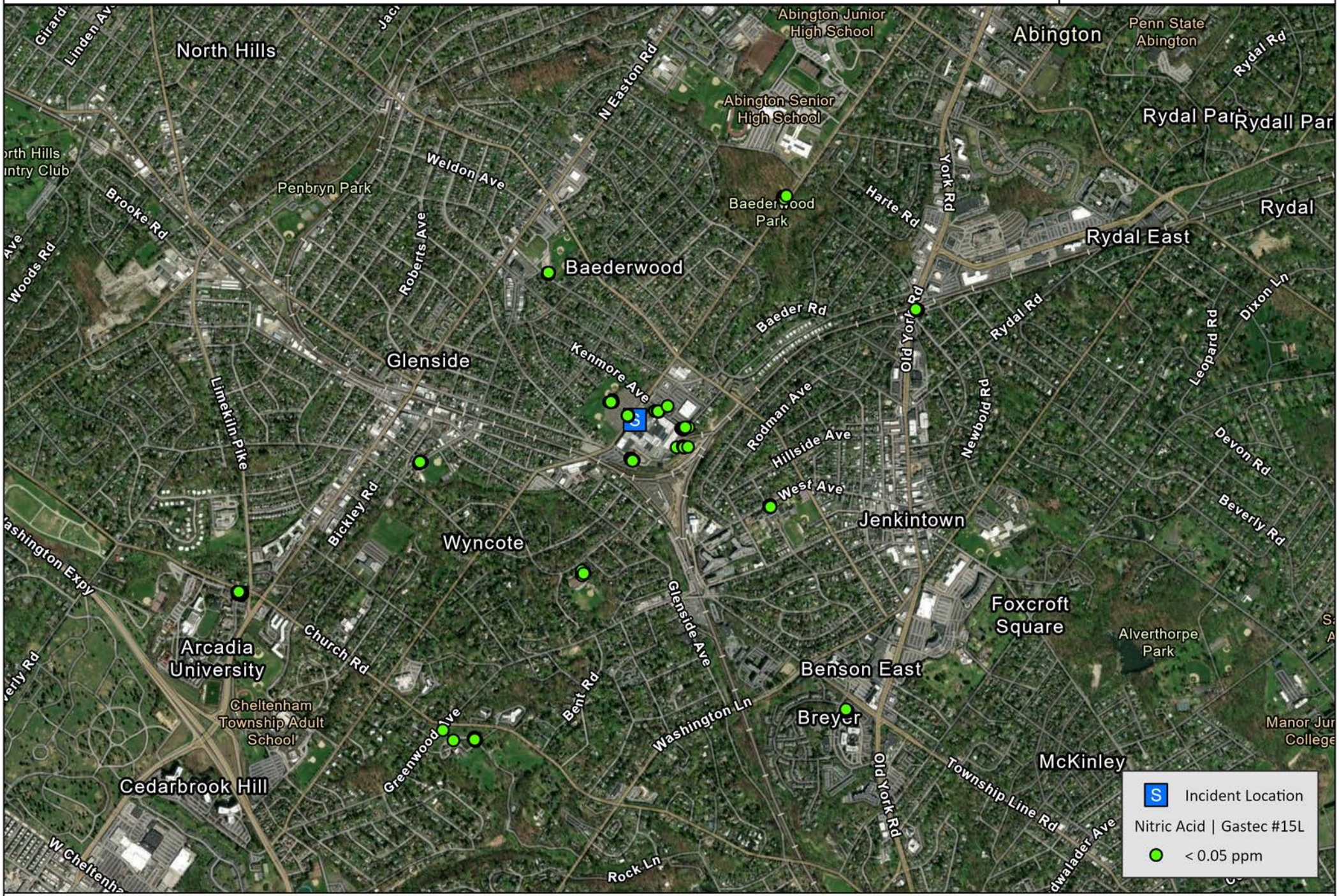
Updated At: 3/16/2025 10:46 AM

CTEH®

Handheld Real-Time Air Monitoring Locations | Community Monitoring | Nitric Acid

SPS Technologies Fire | 03/15/2025 06:00 to 03/16/2025 06:00 EDT

Project: PROJ-052216
City: Abington Township, PA
County: Montgomery



Datum: NAD 1983 2011
Projection: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702

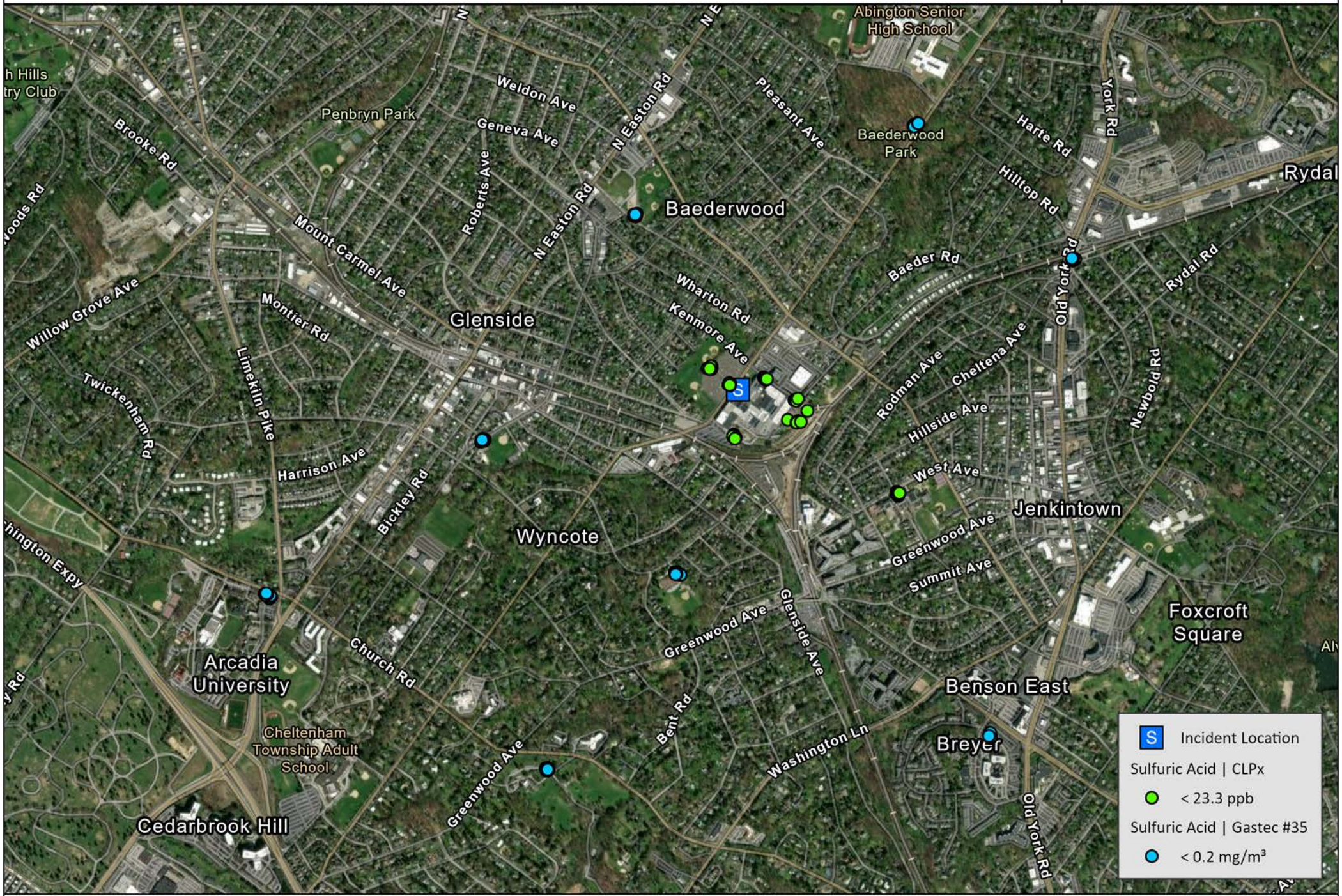
0 1,000 Feet

Updated At: 3/16/2025 10:47 AM

CTEH® **Handheld Real-Time Air Monitoring Locations | Community Monitoring | Sulfuric Acid**

SPS Technologies Fire | 03/15/2025 06:00 to 03/16/2025 06:00 EDT

Project: PROJ-052216
City: Abington Township, PA
County: Montgomery



Datum: NAD 1983 2011
Projection: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702

0 1,000 Feet

Updated At: 3/16/2025 10:47 AM

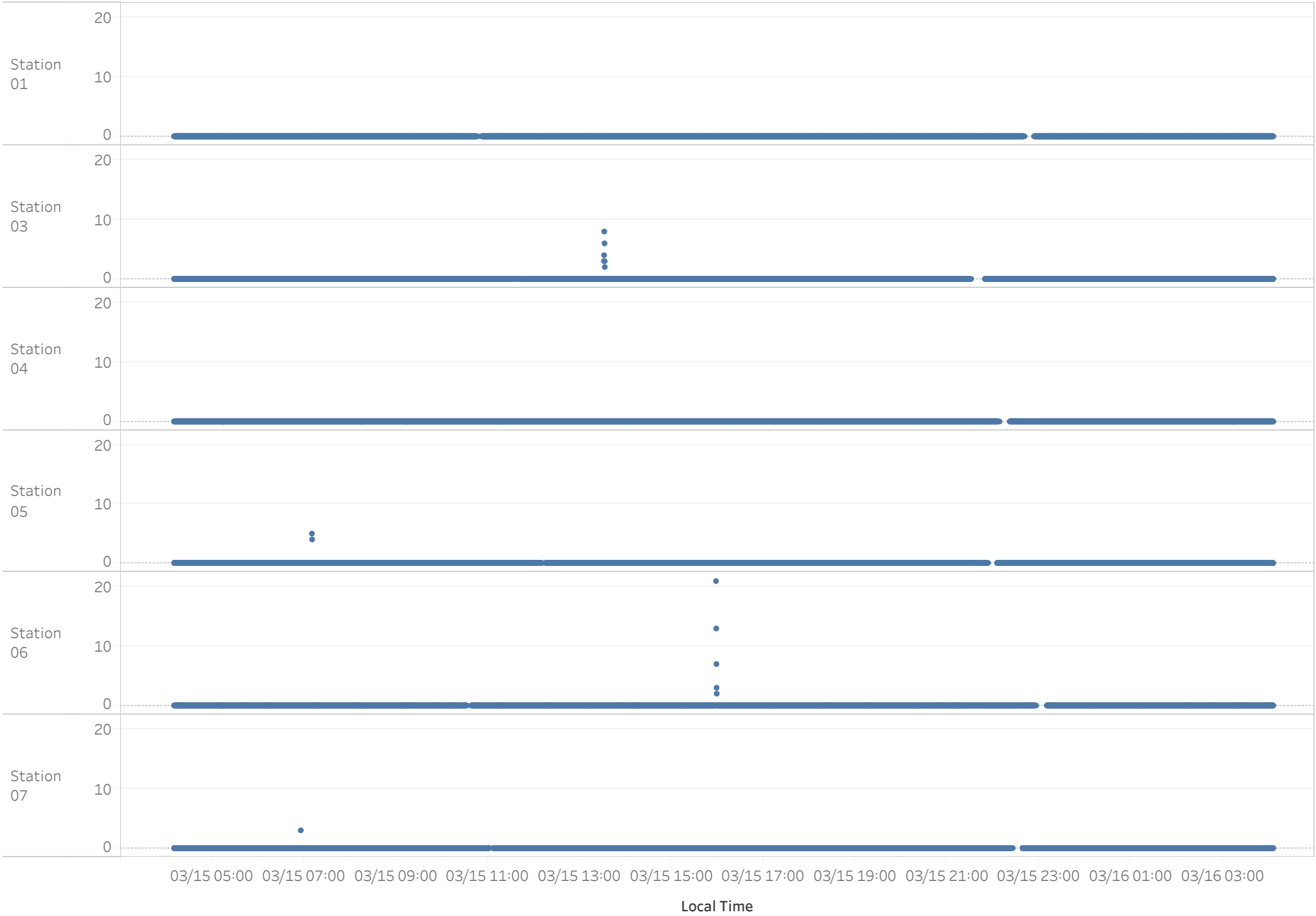
Attachment B

Stationary Real-Time Perimeter Monitoring Graphs

Preliminary Fixed Station Real-time Air Monitoring Readings

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

3/15/2025 4:09:32 AM to 3/16/2025 4:05:43 AM | **Analyte: CO (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

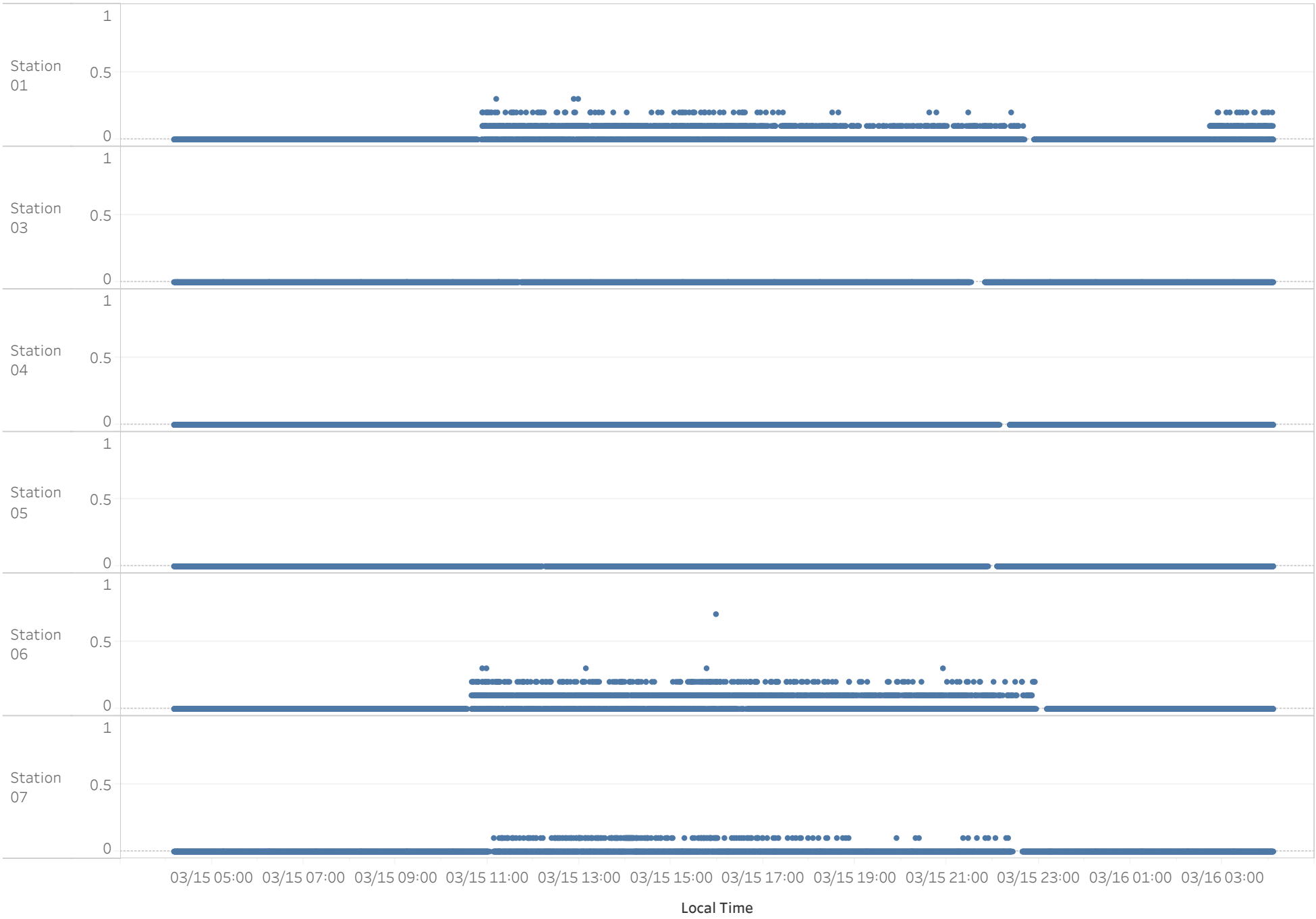
PROJ-052216 | SPS Technologies Fire | Abington Township, PA

3/15/2025 4:09:32 AM to 3/16/2025 4:05:43 AM | **Analyte: H2S (ppm)**

Preliminary Fixed Station Real-time Air Monitoring Readings

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

3/15/2025 4:09:32 AM to 3/16/2025 4:05:43 AM | **Analyte: HCN (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

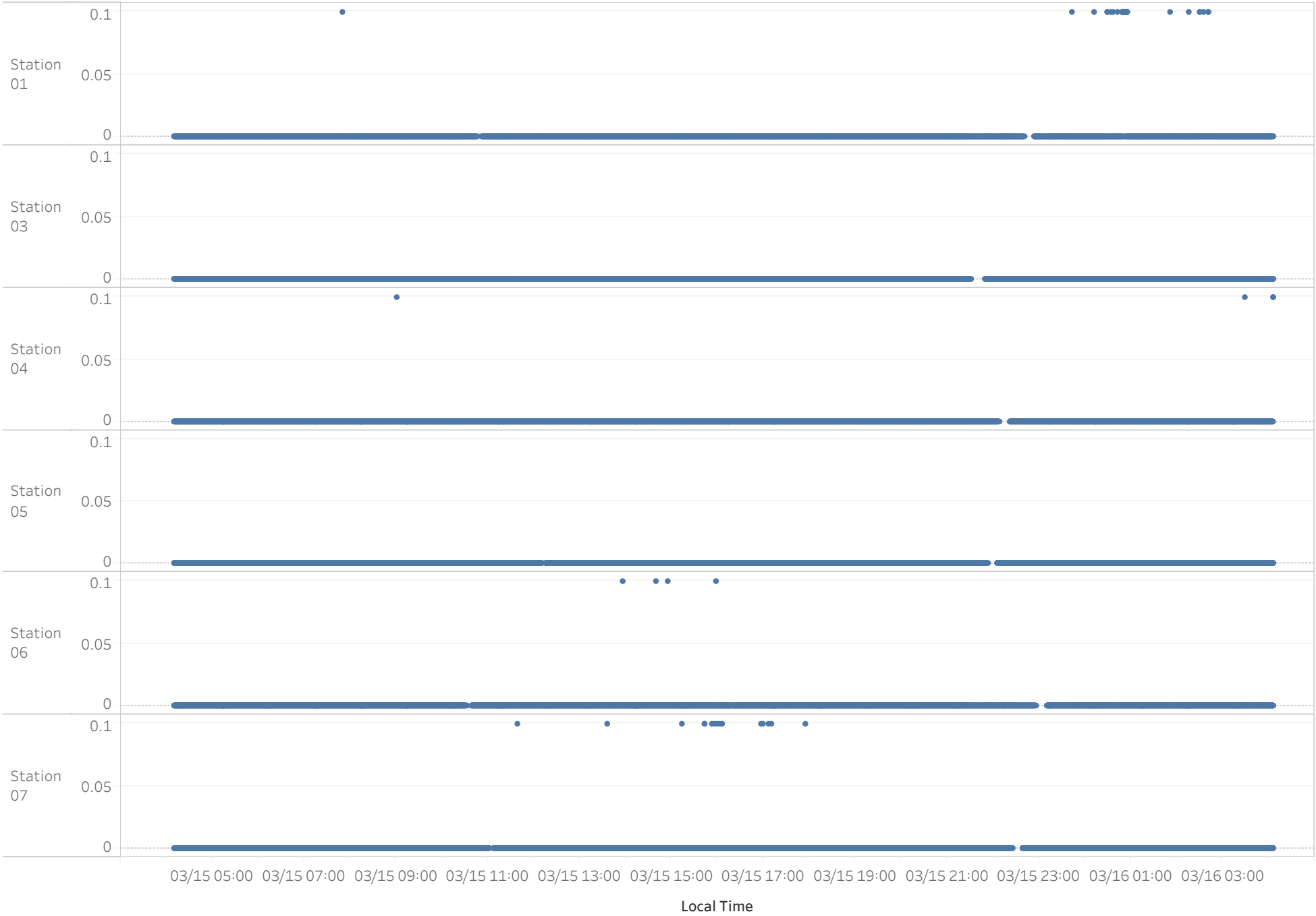
PROJ-052216 | SPS Technologies Fire | Abington Township, PA

3/15/2025 4:09:32 AM to 3/16/2025 4:05:43 AM | **Analyte: LEL (%)**

Preliminary Fixed Station Real-time Air Monitoring Readings

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

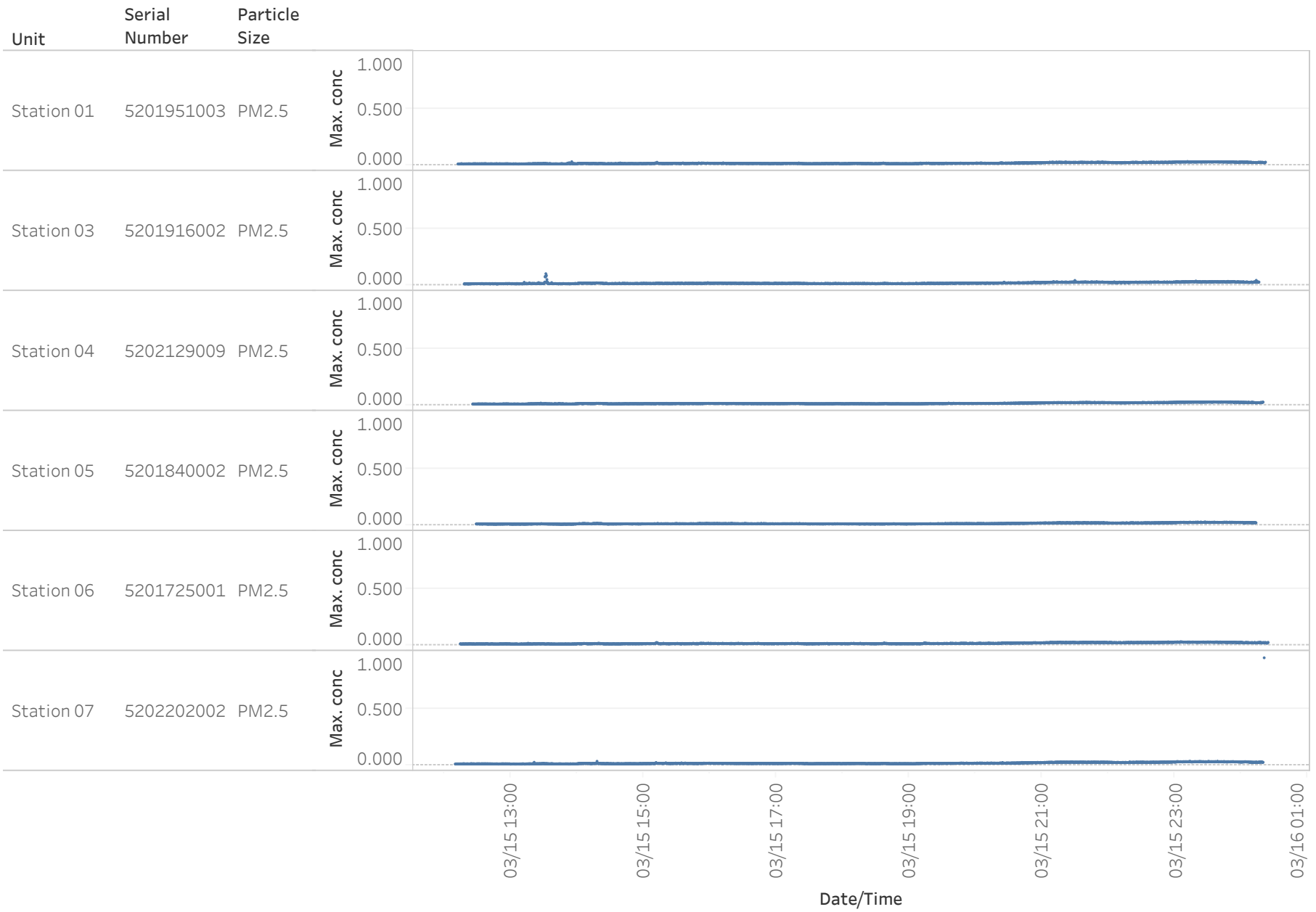
3/15/2025 4:09:32 AM to 3/16/2025 4:05:43 AM | **Analyte: VOCs (ppm)**



PROJ-052216 | PM2.5 Graph

SPS Technologies Fire | Abington Township, PA

03/15 12:09 to 03/16 00:23



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	2,918	2,918	0.012	0.035	0.020
Station 03	PM2.5	2,872	2,872	0.012	0.103	0.021
Station 04	PM2.5	2,856	2,856	0.011	0.032	0.019
Station 05	PM2.5	2,818	2,818	0.010	0.031	0.017
Station 06	PM2.5	2,919	2,919	0.011	0.033	0.019
Station 07	PM2.5	2,920	2,920	0.012	0.942	0.021

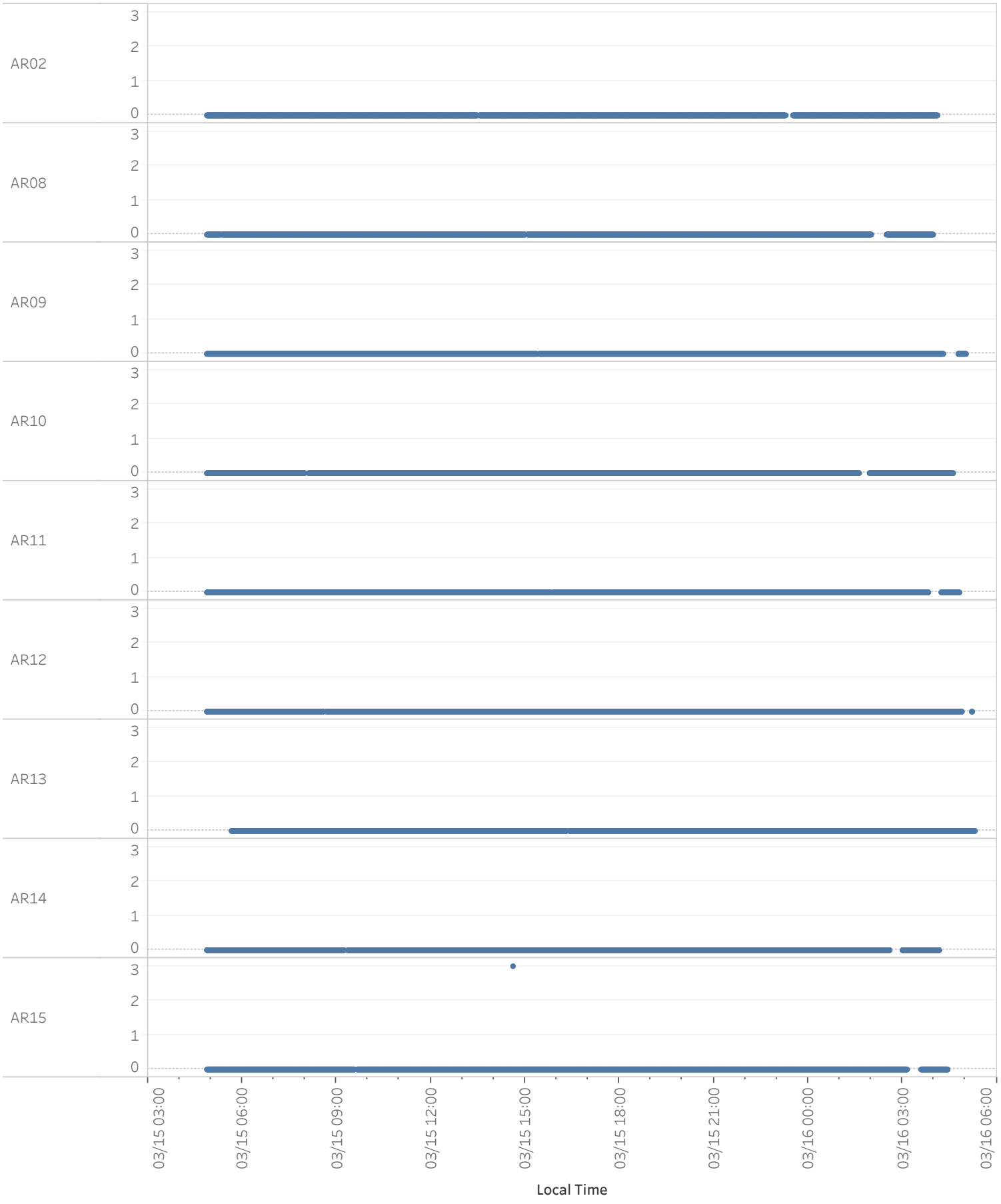
Attachment C

Stationary Real-Time Community Monitoring Graphs

Preliminary Fixed Station Real-time Air Monitoring Readings

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

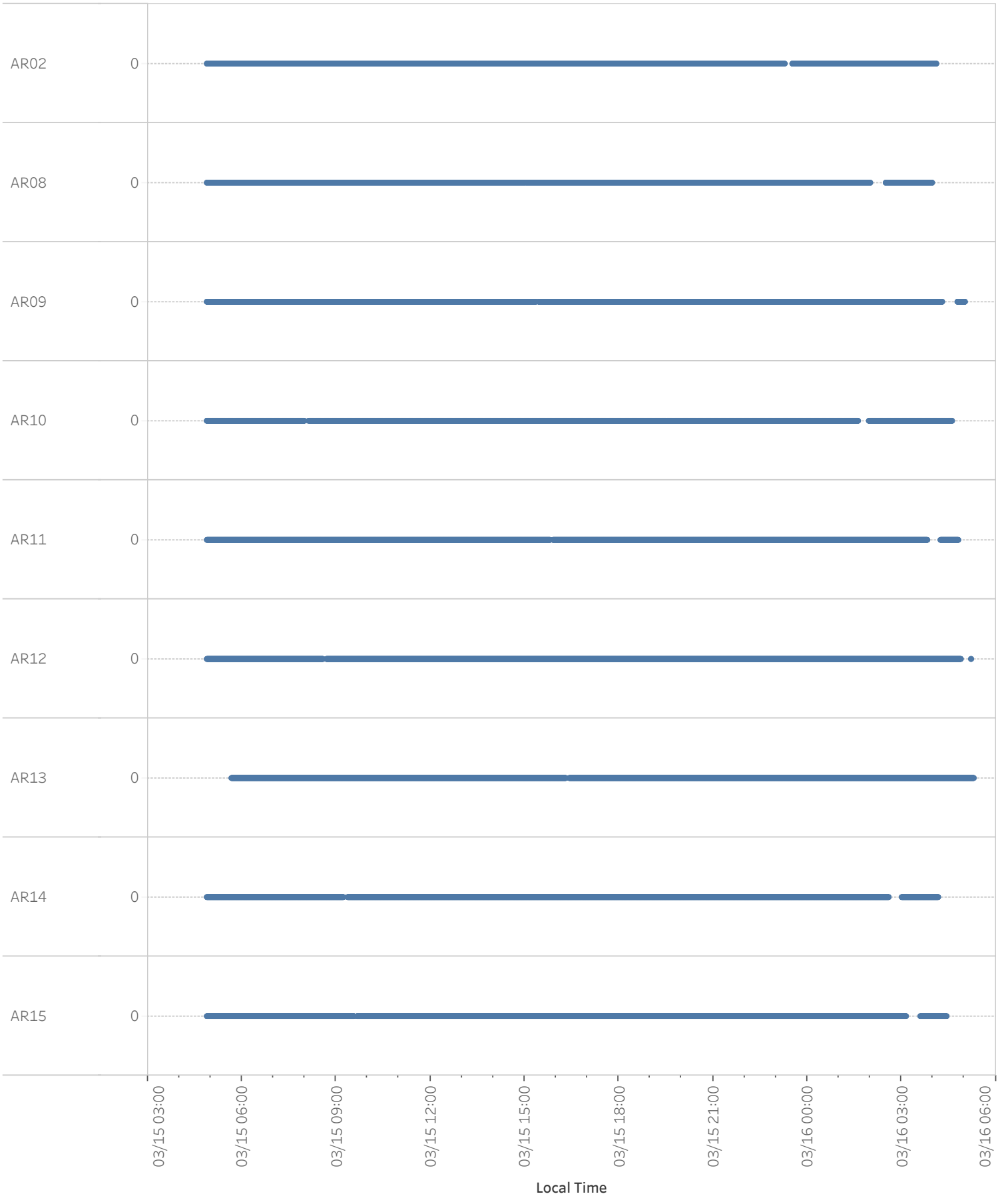
3/15/2025 4:51:53 AM to 3/16/2025 5:17:15 AM | **Analyte: CO (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

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

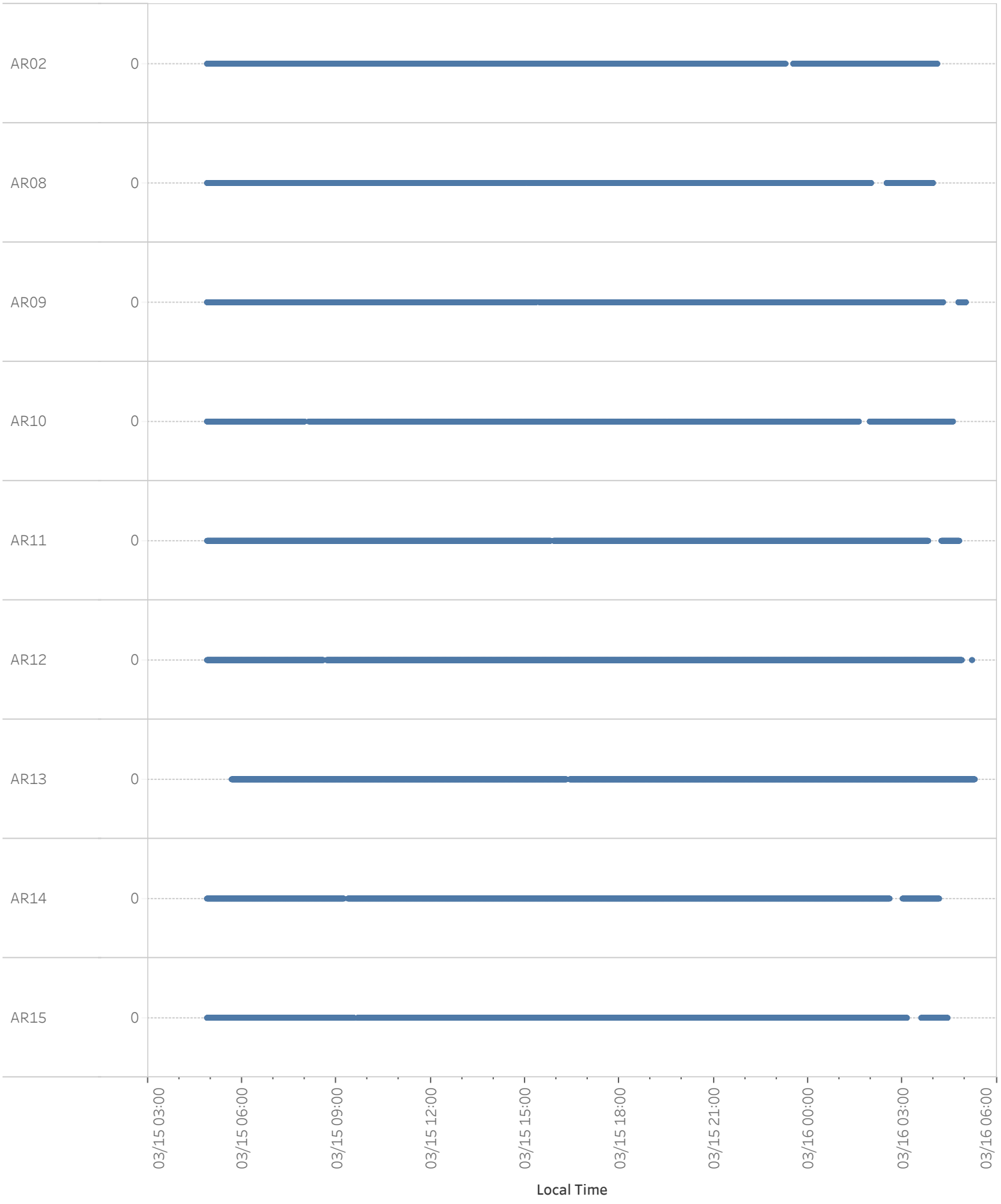
3/15/2025 4:51:53 AM to 3/16/2025 5:17:15 AM | **Analyte: H2S (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

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

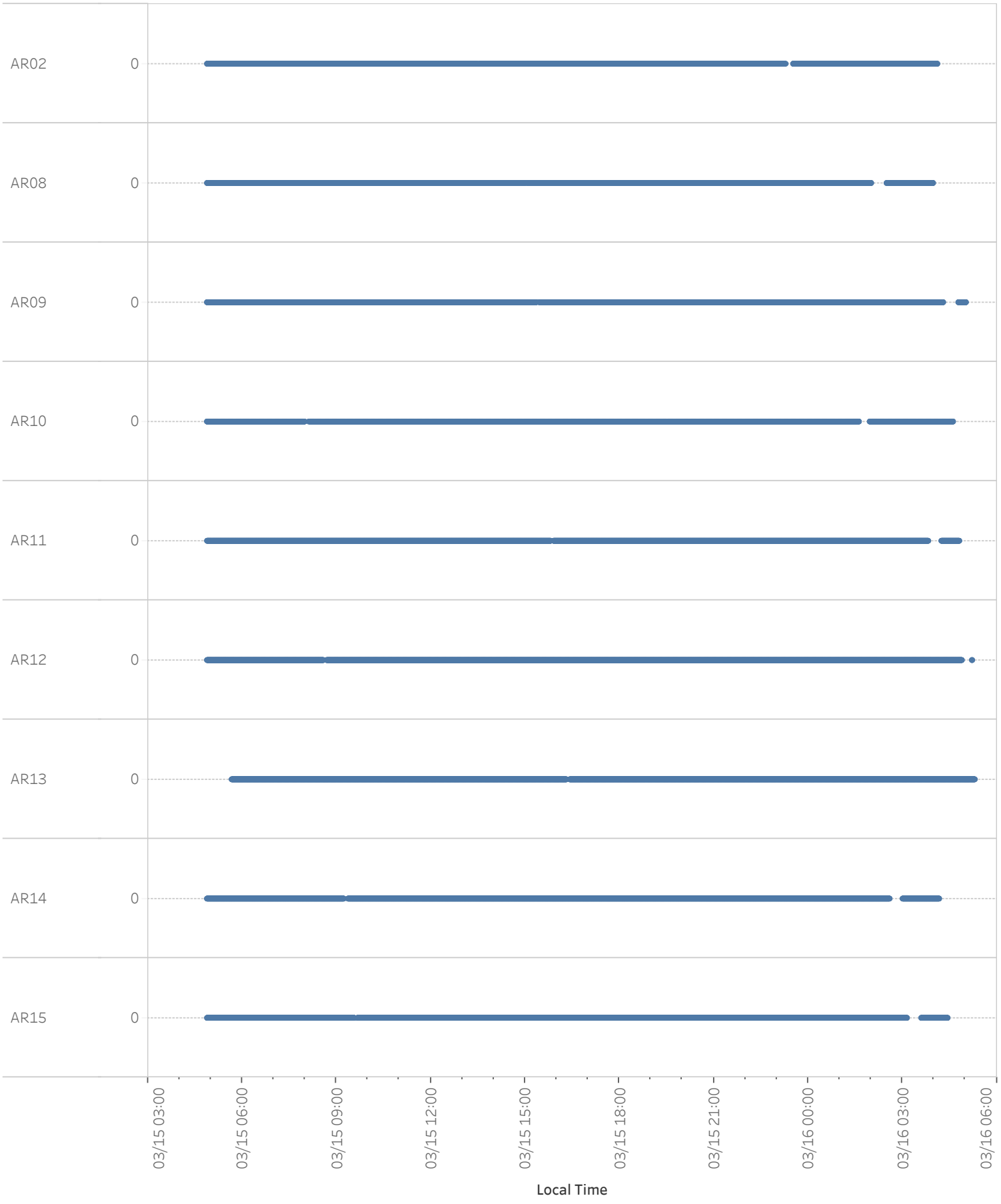
3/15/2025 4:51:53 AM to 3/16/2025 5:17:15 AM | **Analyte: HCN (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

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

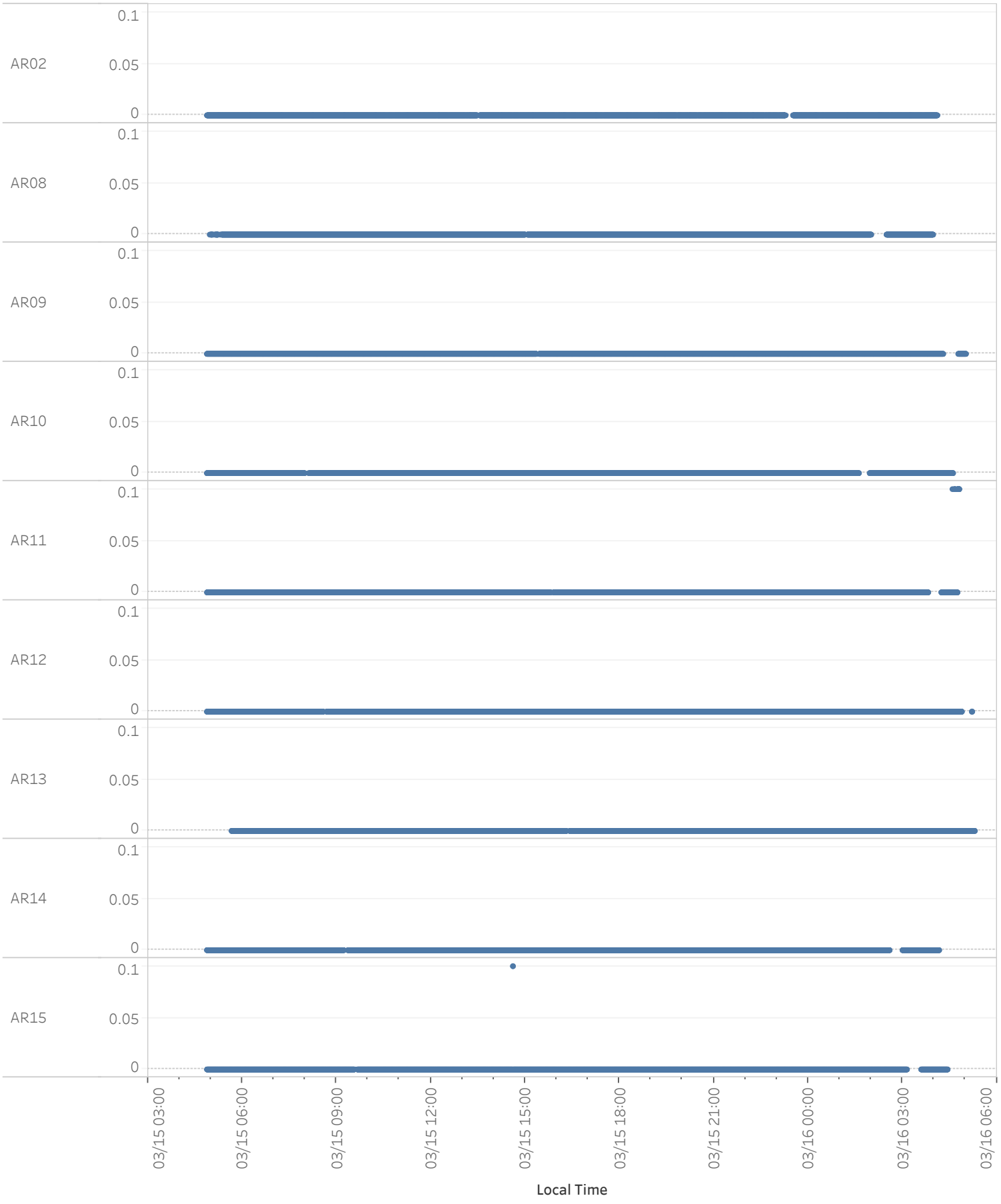
3/15/2025 4:51:53 AM to 3/16/2025 5:17:15 AM | **Analyte: LEL (%)**



Preliminary Fixed Station Real-time Air Monitoring Readings

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

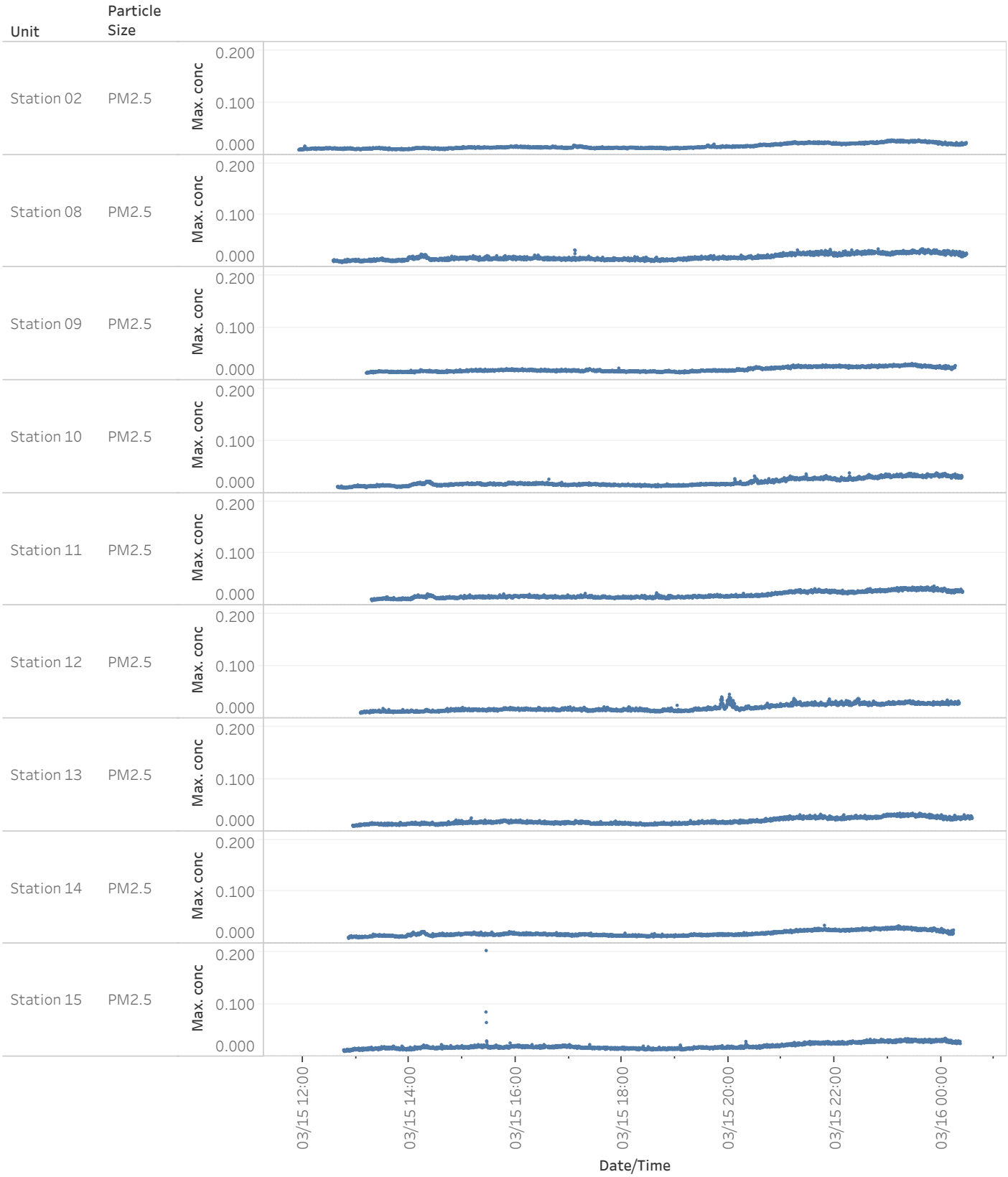
3/15/2025 4:51:53 AM to 3/16/2025 5:17:15 AM | **Analyte: VOCs (ppm)**



PROJ-052216 | PM2.5 Graph | Expanded Community

SPS Technologies Fire | Abington Township, PA

03/15 11:55 to 03/16 00:34



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

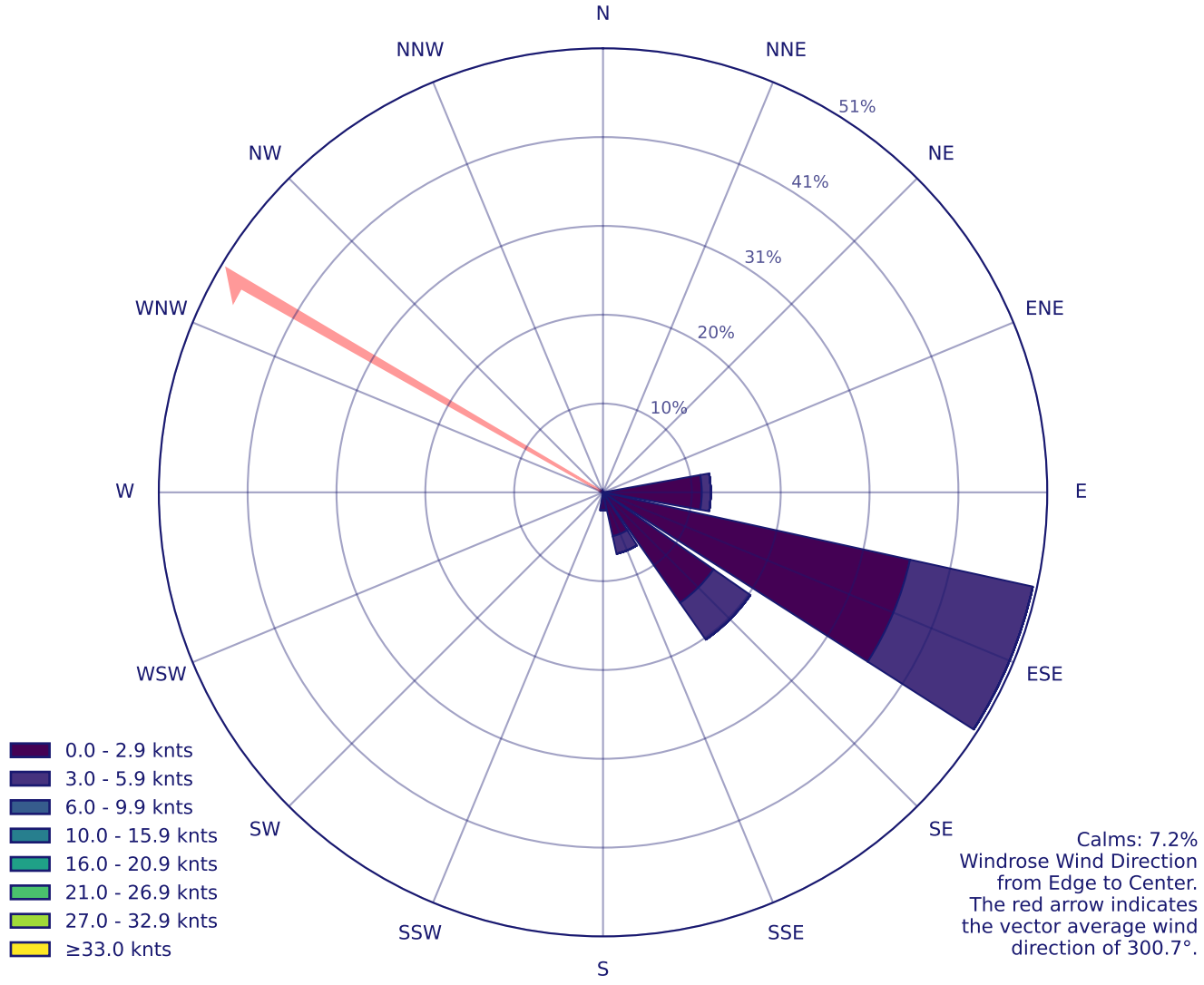
Unit	Particle Size	Count of Records	Count of Detections	Min. concentration	Max. concentration	Avg. concentration
Station 02	PM2.5	3,012	3,012	0.010	0.029	0.017
Station 08	PM2.5	2,852	2,852	0.009	0.035	0.019
Station 09	PM2.5	2,651	2,651	0.014	0.032	0.021
Station 10	PM2.5	2,819	2,819	0.011	0.039	0.021
Station 11	PM2.5	2,669	2,669	0.009	0.037	0.020
Station 12	PM2.5	2,703	2,703	0.010	0.046	0.020
Station 13	PM2.5	2,796	2,796	0.010	0.035	0.020
Station 14	PM2.5	2,731	2,731	0.010	0.035	0.019
Station 15	PM2.5	2,783	2,783	0.010	0.202	0.020

Attachment D

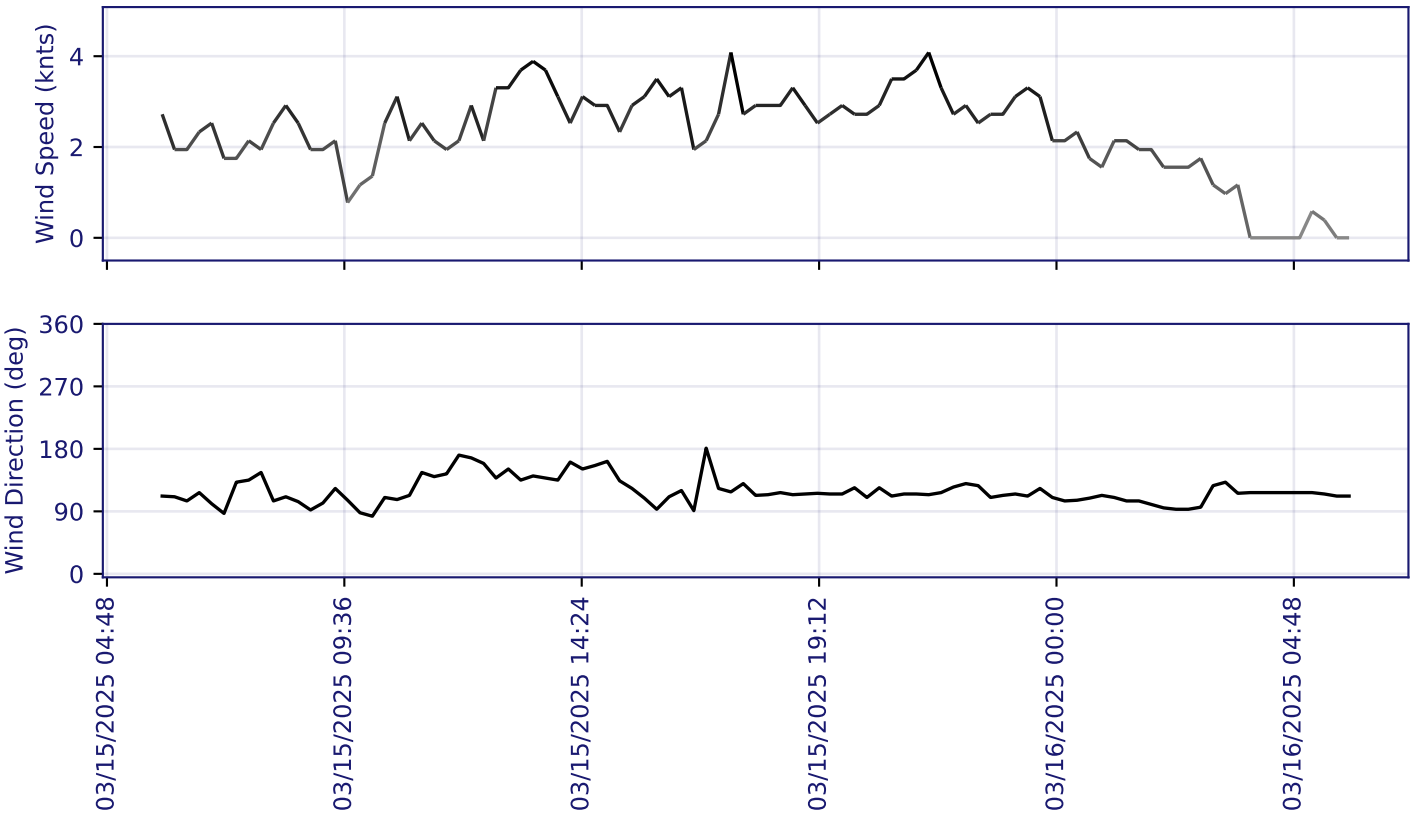
Meteorological Conditions

CTEH

Weather Station: KESTREL (MET 3)- PA
03/15/2025 05:55 TO 03/16/2025 05:55

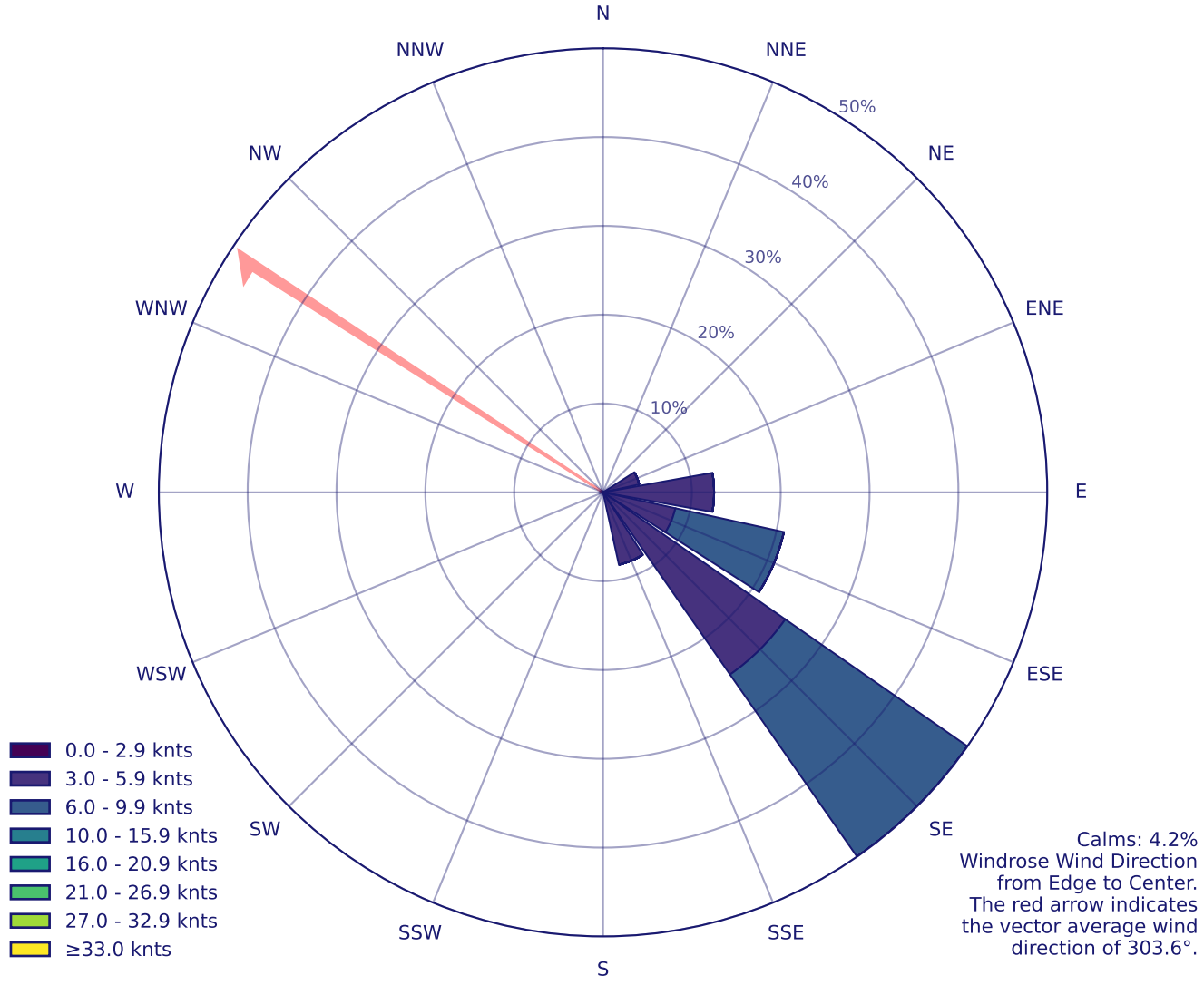


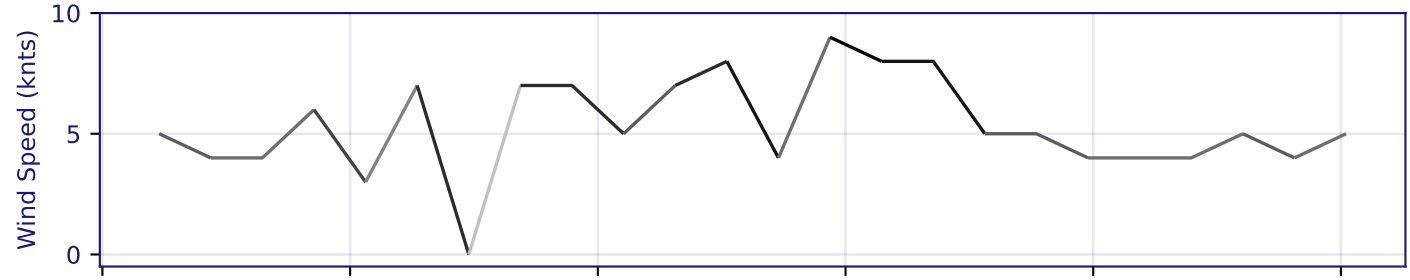
Calms: 7.2%
Windrose Wind Direction
from Edge to Center.
The red arrow indicates
the vector average wind
direction of 300.7°.

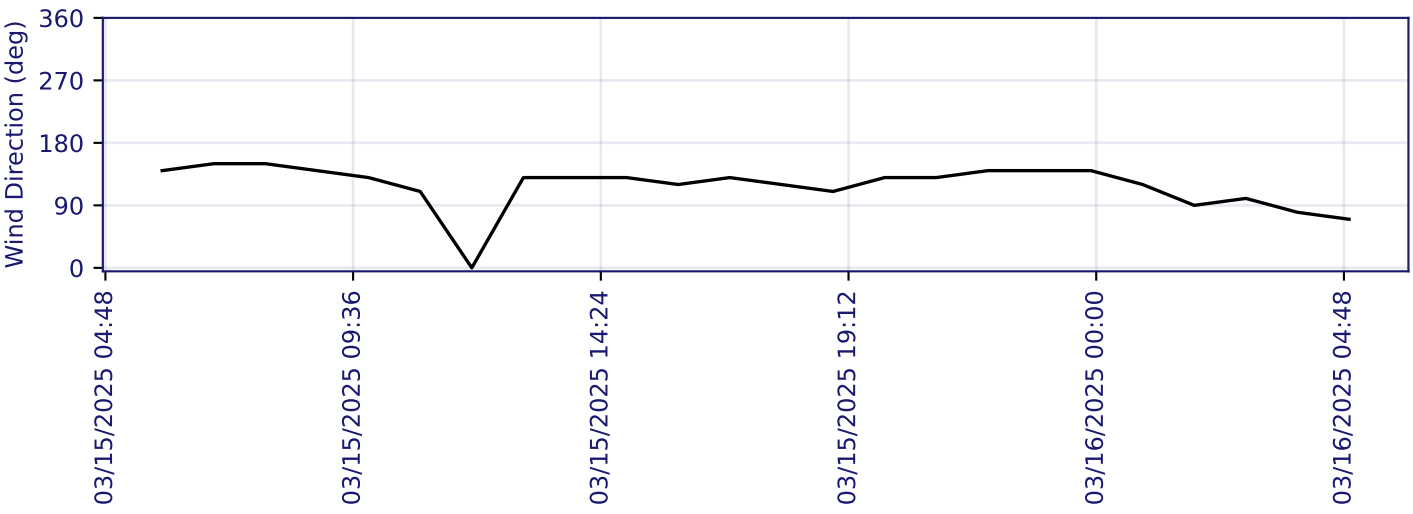


CTEH

Weather Station: PHILADELPHIA NE
03/15/2025 05:54 TO 03/16/2025 04:54







Attachment E

TSI SidePak AM520/AM520i Technical Specifications

Knowledge Beyond Measure.

SidePak™ Personal Aerosol Monitor

Models AM520 and AM520i

The SidePak™ AM520 and AM520i Personal Aerosol Monitors are small, portable, battery-operated, data-logging, light-scattering laser photometers that provide real-time aerosol mass concentration readings of dusts, fumes, mists, smoke and fog within a worker's breathing zone.

Newly designed inlet conditioners increase the mass concentration capability and provide size fraction cut points for PM10, Respirable (PM4), PM5 (China Respirable), PM2.5, PM1 and 0.8µm Diesel Particulate Matter (DPM).

These monitors are the perfect solution for real-time, personal aerosol sampling in a variety of workplace environments, including but not limited to general industry, foundries, construction sites, pre-cast concrete and cement, chemical plants, refineries, petrochemical, power and utilities, transportation, aerospace, maritime, confined spaces and mining. For monitoring in flammable and explosive environments—**Model AM520i is the smallest intrinsically safe real-time photometric personal exposure monitor currently available on the global market.**

New Features and Benefits

- Dual display and logging of mass concentration and response concentration on one screen
- Stores up to 10 custom calibration factors on the instrument for different applications
- TrakPro™ v5 Data Analysis Software updated with;
  - Custom calibration factor calculator to simplify calibration factor process
  - Continued ability to name custom calibration factors and upload them to the instrument
  - Enhanced alarm features to include response concentration alarm value

Features and Benefits

- Real-time mass concentration and secondary response concentration measurement and data logging for "in-the-field" data analysis of multiple aerosols
- Push button menu operation or programmable through newly improved TrakPro™ v5 Data Anaylsis Software
- User-selectable alarm levels to alert workers to high aerosol concentrations
- Newly designed robust impactors enable reliable size fraction measurements at higher aerosol concentrations over longer run times
- Model AM520i designed and tested to pass Intrinsic safety requirements as established by IEC (International Electrotechnical Commission)— see TSI® App Note EXPMN-017 for a basic understanding of intrinsic safety

Specifications

SidePak™ Personal Aerosol Monitor

Models AM520 and AM520i

Sensitivity

Sensor Type	90° light scattering, 650 nm laser diode
Calibration	Calibrated against a gravimetric reference using the respirable fraction of standard ISO 12103-1, A1 Test Dust
Aerosol	
Concentration Range	0.001 to 100 mg/m³
Particle Size Range	0.1 to 10 µm
Minimum Resolution	0.001 mg/m³
Zero Stability	±0.001 mg/m³ over 24 hours using 10 second time constant
Temperature Coefficient	Approximately +0.0005 mg/m³ per °C (for variations from temperature at which instrument was last zeroed)

Flow Rate

Range	User-adjustable, 0 to 1.8 liters/min (L/min) Note: Upper range is dependent on impactor or cyclone attached to the SidePak™ AM520/520i Monitor

Temperature Range

Operating Range	32° F to 120° F (0° C to 50° C)
Storage Range	-4° F to 140° F (-20° C to 60° C)
Operational Humidity	0 to 95% RH, non-condensing

Time Constant (OLED Display)

Range	User-adjustable, from 1 to 60 seconds

Built-in Inlets

Standard inlet	Not size-specific
PM1.0 impactor	50% cut-off at 1.0 µm
PM2.5 impactor	50% cut-off at 2.5 µm
PM5.0 impactor	50% cut-off at 5.0 µm
PM10 impactor	50% cut-off at 10.0 µm

Attachable Cyclones

4 µm Dorr-Oliver	50% cut-off at 4.0 µm
0.8 µm DPM	50% cut-off at 0.8 µm

Alarms

Alarm Types	General, STEL
Default Settings	0.5 mg/m³, 1 mg/m³, 3 mg/m³, 5 mg/m³, 15 mg/m³, Off
Programmable from 0.001 to 999 mg/m³ through TrakPro™ Software	
Alarm Indicator	95 dBA (at one foot) audible horn, blinking red LED, flashing red OLED display
Ringback Delay	30 sec, 1 min, 3 min, 5 min, 10 min, Off

Data Logging

Data Points	Approx. 80,000 (55 days logging once per minute)
Logging Interval	User-adjustable, from 1 second to 60 minutes

Communications Interface

Type	USB 2.0
Connector, Instrument	USB Micro-B (socket)

User-Select Calibration Factors

Factory Setting	1.0 (non-adjustable)
Ambient Setting	0.38 (non-adjustable)
User-Defined Settings	10, with user-defined labels via TrakPro™ Software
Range	0.1 to 10.0, user-adjustable

Physical

External Dimensions	5.1 x 3.7 x 3.1 inch 129.5 mm x 94 mm x 78.4 mm with 803322 battery
Weight	22 oz (0.62 kg) with 803322 battery
Display	160 x 128 resolution color OLED display
Tripod Mounting Nut	¼-20 female thread

Battery Pack (Model AM520 p/n 803300, Model AM520i p/n 803322)

Rating	5100 mAH Li-Ion Pack
Run Time	Greater than 20 hours at 1.7Lpm with a PM2.5 impactor
Charge Time	4.0 hours (typical with a fully depleted battery)

Power Supply (p/n 803302)

Input Voltage Range	100 to 240 VAC, 50 to 60 Hz
Output Voltage	12 VDC @ 3.0A

Maintenance

Factory Clean/Calibrate	Recommended annually
User Zero Calibration	Before each use
User Flow Calibration	As needed with use of inlet conditioner

Minimum Computer Requirements for TrakPro Software

Communications Port	Universal Serial Bus (USB) v2.0 or higher
Operating System	Microsoft Windows® 7, 8, or 10 (32-bit or 64-bit) operating systems

Approvals

CE Model AM520 | CE Model AM520i

Immunity	EN61326-1:2013
Emissions	EN61326-1:2013 Class B
Safety	IEC 61010-1:2010 IEC 60825-1:2014

Intrinsically Safe SidePak™ AM520i Personal Aerosol Monitor

See specifications sheet for more details. Rated for use in atmospheres known to contain flammable gases and vapors, flammable fibers and flammable dust.

Explanation of intrinsic safety rating — Global Zone Rating: Ex ia IIC T4 Ga (see TSI App Note EXPMN-016 for further explanation of Model AM520i intrinsic safety rating and see TSI App Note EXPMN-017 for a basic understanding of intrinsic safety)

Certifications — IECEx, ATEX, CSA, IECEx SIM-19.0009X

Knowledge Beyond Measure.

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