CTEH®

PRELIMINARY AIR MONITORING SUMMARY

Jenkintown, PA

SPS Technologies Fire

March 13 – 14, 2025

Submitted March 15, 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 13, 2025 to approximately 0600 EDT on March 14, 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	111	0	< 44 ppb
	MultiRAE	31	0	< 0.1 ppm
H_2S	MultiRAE	11	0	< 0.1 ppm
Nitric Acid	Gastec #15L	175	0	< 0.05 ppm
Sulfuric Acid	CLPx Cassette 1-410-070	58	0	< 23.3 ppb
	Gastec #35	116	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	5,665	0	< 1.0 ppm
	H_2S	5,665	0	< 0.1 ppm
	HCN	5,665	0	< 1.0 ppm
	%LEL	5,665	0	< 1.0 %
	VOCs	5,665	19	0.1 ppm
Station 03	CO	5,527	0	< 1.0 ppm
	H_2S	5,527	0	< 0.1 ppm
	HCN	5,527	0	< 1.0 ppm
	%LEL	5,527	0	< 1.0 %
	VOCs	5,527	814	0.1 - 0.2 ppm
Station 04	CO	5,689	0	< 1.0 ppm
	H_2S	5,689	0	< 0.1 ppm
	HCN	5,689	0	< 1.0 ppm
	%LEL	5,689	0	< 1.0 %
	VOCs	5,689	0	< 0.1 ppm

Station 05	CO	5,671	0	< 1.0 ppm
	H_2S	5,671	0	< 0.1 ppm
	HCN	5,671	0	< 1.0 ppm
	%LEL	5,671	0	< 1.0 %
	VOCs	5,671	0	< 0.1 ppm
Station 06	CO	5,696	0	< 1.0 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	0	< 0.1 ppm
Station 07	CO	5,680	20	2.0 - 9.0 ppm
	H_2S	5,680	0	< 0.1 ppm
	HCN	5,680	0	< 1.0 ppm
	%LEL	5,680	0	< 1.0 %
	VOCs	5,680	7	0.1 - 1.8 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	0.006
Station 3	AM520	0.035	0.007
Station 4	AM520	0.035	0.006
Station 5	AM520	0.035	0.007
Station 6	AM520	0.035	0.007
Station 7	AM520	0.035	0.006

†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 Station 7. These detections may be attributed to heavy equipment and vehicles operating at the impacted facility. 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	5,039	0	< 1.0 ppm
	H_2S	5,039	0	< 0.1 ppm
	HCN	5,039	0	< 1.0 ppm
	LEL	5,039	0	< 1.0 %
	VOCs	5,039	0	< 0.1 ppm
Station 08	CO	4,737	0	< 1.0 ppm
	H_2S	4,737	0	< 0.1 ppm
	HCN	4,737	0	< 1.0 ppm
	LEL	4,737	0	< 1.0 %
	VOCs	4,737	0	< 0.1 ppm
Station 09	CO	5,219	0	< 1.0 ppm
	H_2S	5,219	0	< 0.1 ppm
	HCN	5,219	0	< 1.0 ppm
	LEL	5,219	0	< 1.0 %
	VOCs	5,219	0	< 0.1 ppm
Station 10	CO	5,009	0	< 1.0 ppm
	H_2S	5,009	0	< 0.1 ppm
	HCN	5,009	0	< 1.0 ppm
	LEL	5,009	0	< 1.0 %
	VOCs	5,007	0	< 0.1 ppm
Station 11	CO	5,154	5	1.0 - 5.0 ppm
	H_2S	5,154	0	< 0.1 ppm
	HCN	5,154	0	< 1.0 ppm
	LEL	5,154	0	< 1.0 %
	VOCs	5,154	0	< 0.1 ppm
Station 12	CO	5,277	3	1.0 - 9.0 ppm
	H_2S	5,277	0	< 0.1 ppm
	HCN	5,277	0	< 1.0 ppm
	LEL	5,277	0	< 1.0 %
	VOCs	5,277	0	< 0.1 ppm
Station 13	CO	5,376	0	< 1.0 ppm
	H_2S	5,376	0	< 0.1 ppm
	HCN	5,376	0	< 1.0 ppm
	LEL	5,376	0	< 1.0 %

	VOCs	5,376	0	< 0.1 ppm
Station 14	CO	4,889	0	< 1.0 ppm
	H_2S	4,889	0	< 0.1 ppm
	HCN	4,889	0	< 1.0 ppm
	LEL	4,889	0	< 1.0 %
	VOCs	4,889	0	< 0.1 ppm
Station 15	CO	4,998	6	2.0 - 8.0 ppm
	H_2S	4,998	0	< 0.1 ppm
	HCN	4,998	0	< 1.0 ppm
	LEL	4,998	0	< 1.0 %
	VOCs	4,998	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 (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	0.006
Station 8	AM520	0.035	0.005
Station 9	AM520	0.035	0.009
Station 10	AM520	0.035	0.006
Station 11	AM520	0.035	0.006
Station 12	AM520	0.035	0.006
Station 13	AM520	0.035	0.004
Station 14	AM520	0.035	0.005
Station 15	AM520	0.035	0.005

†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, %LEL, or VOCs. Transient, low-level detections of CO were observed at Stations 11, 12, and 15. 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.

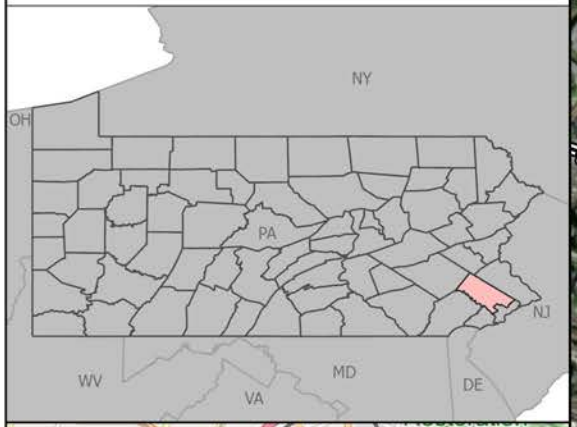
Attachment A

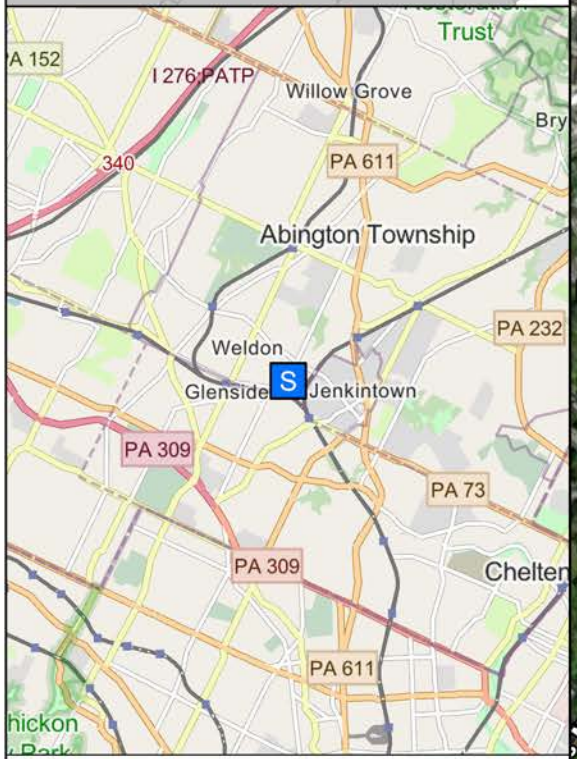
Maps

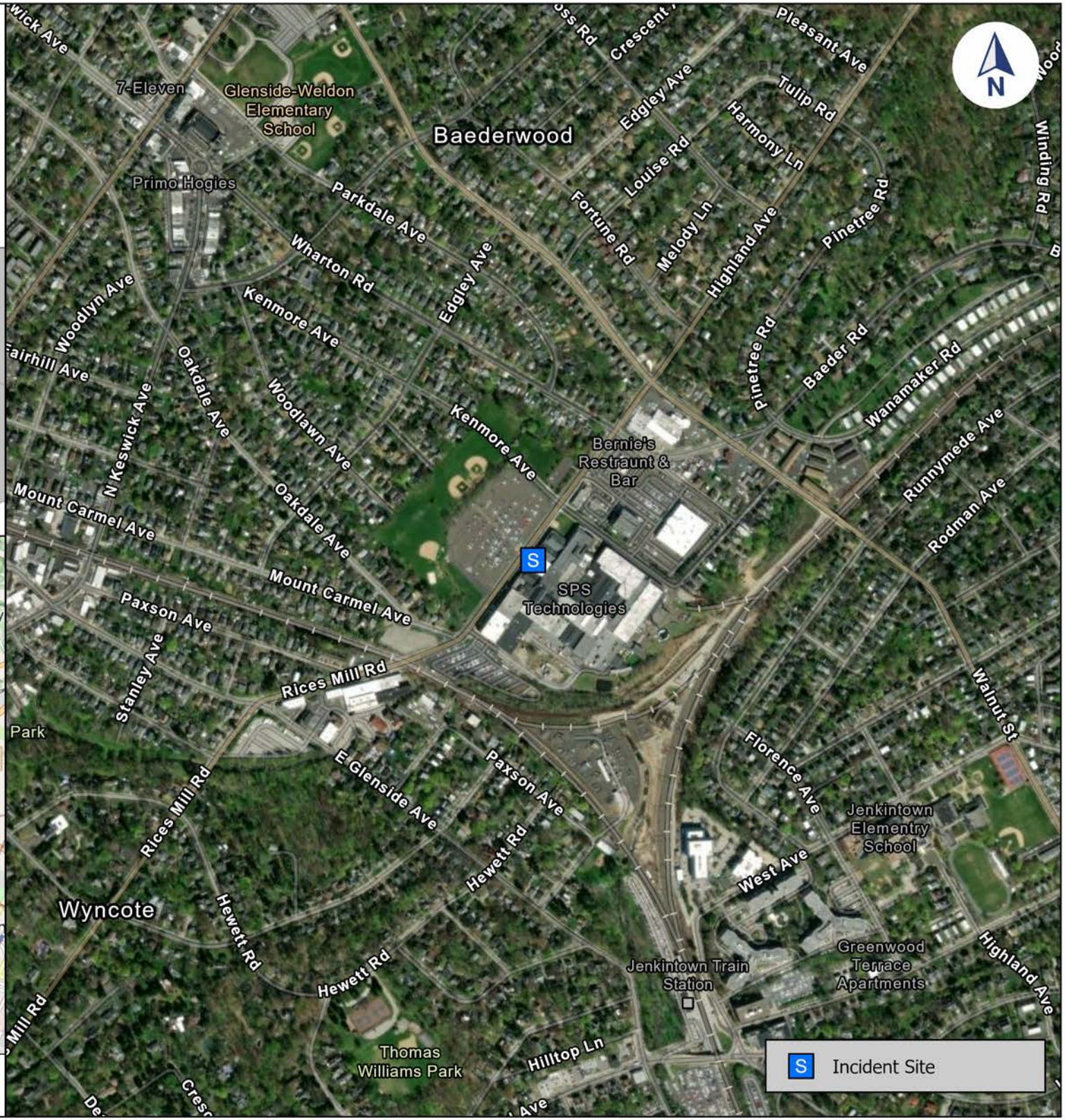
CTEH®

SPS Technologies Fire

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





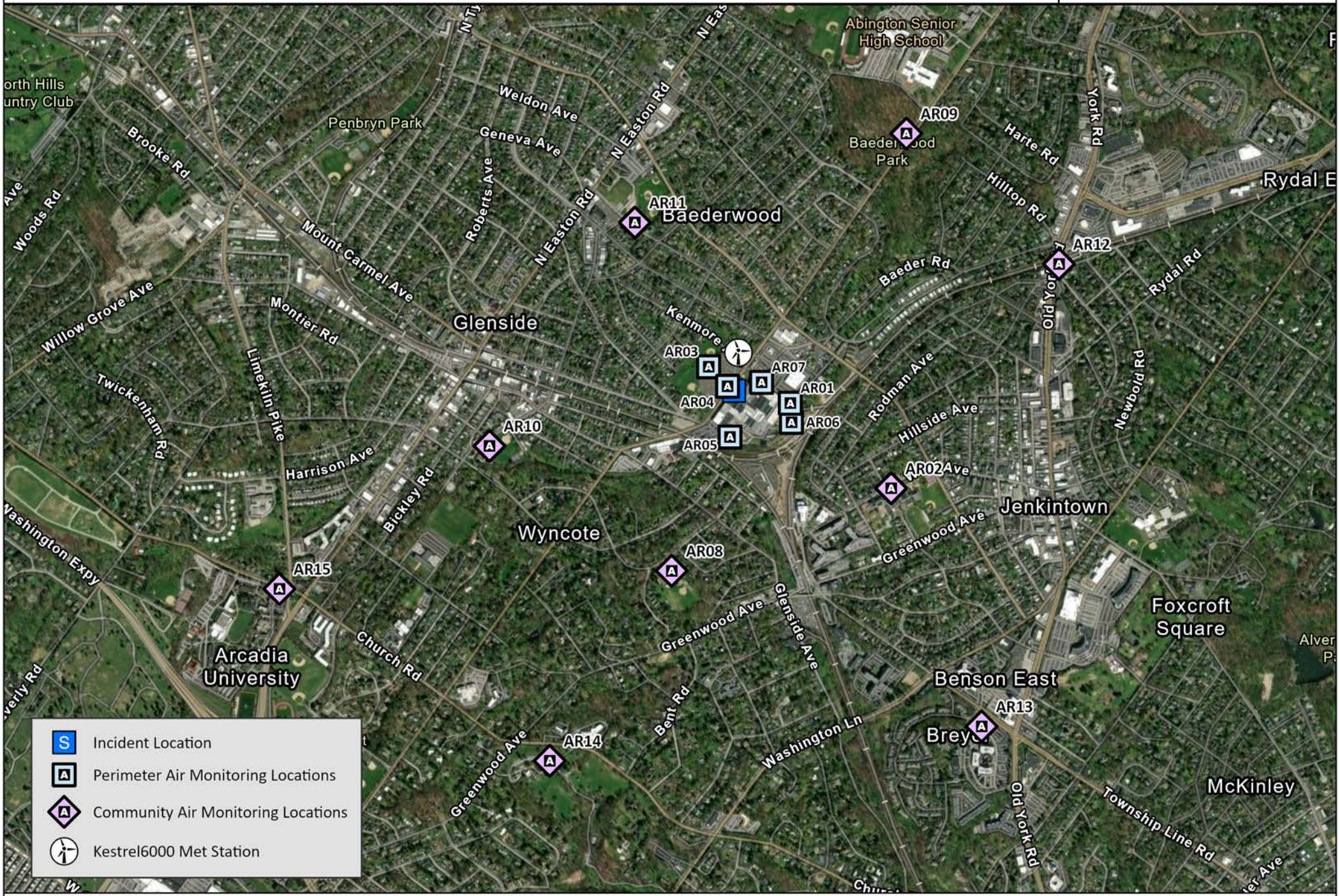


Updated At: 2/20/2025 4:59 PM
Projection: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702

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

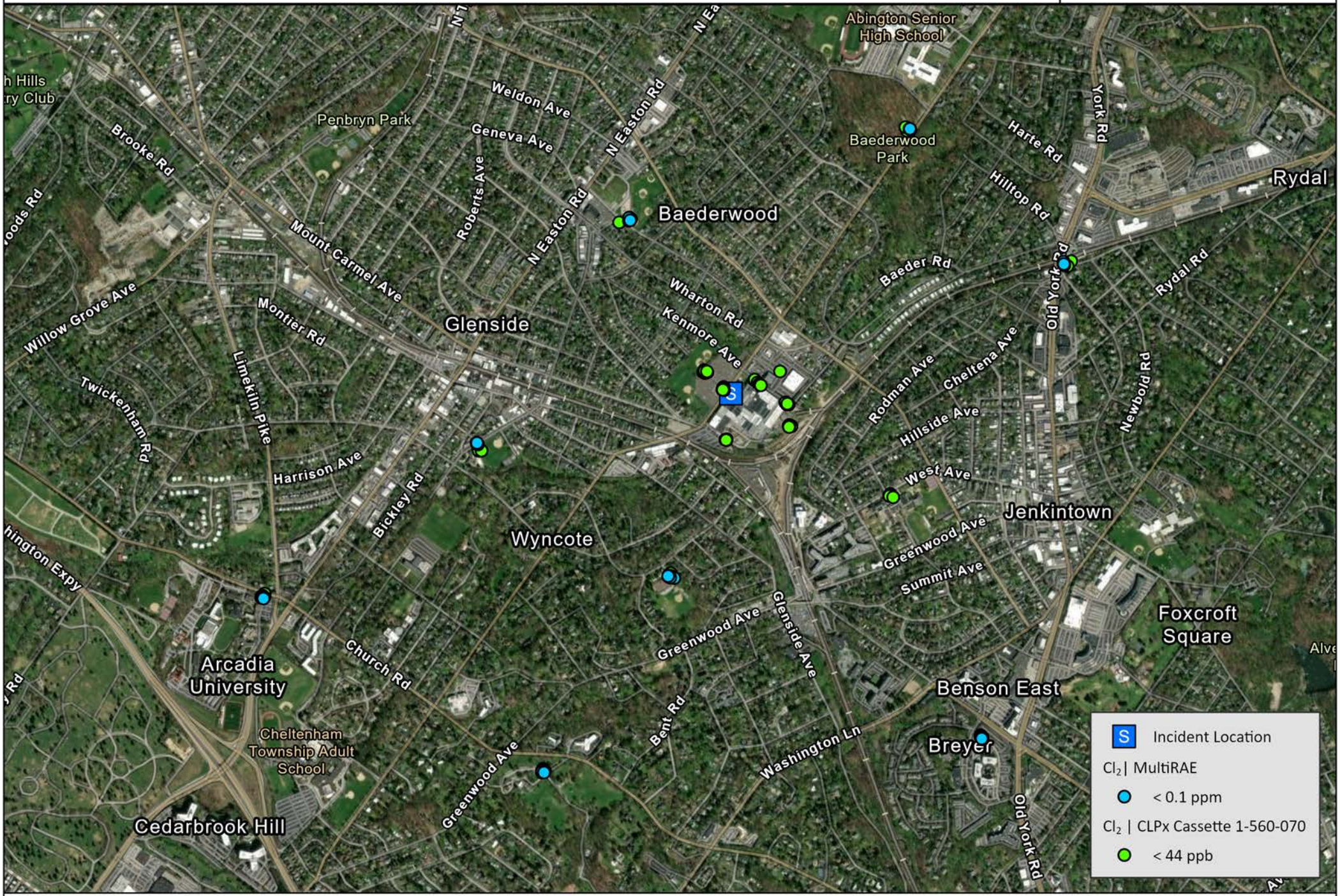
0 1 Miles

Updated at 2025-02-24 15:45

CTEH® **Handheld Real-Time Air Monitoring Locations | Community Monitoring | Cl_2**

SPS Technologies Fire | 03/13/2025 06:00 to 03/14/2025 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

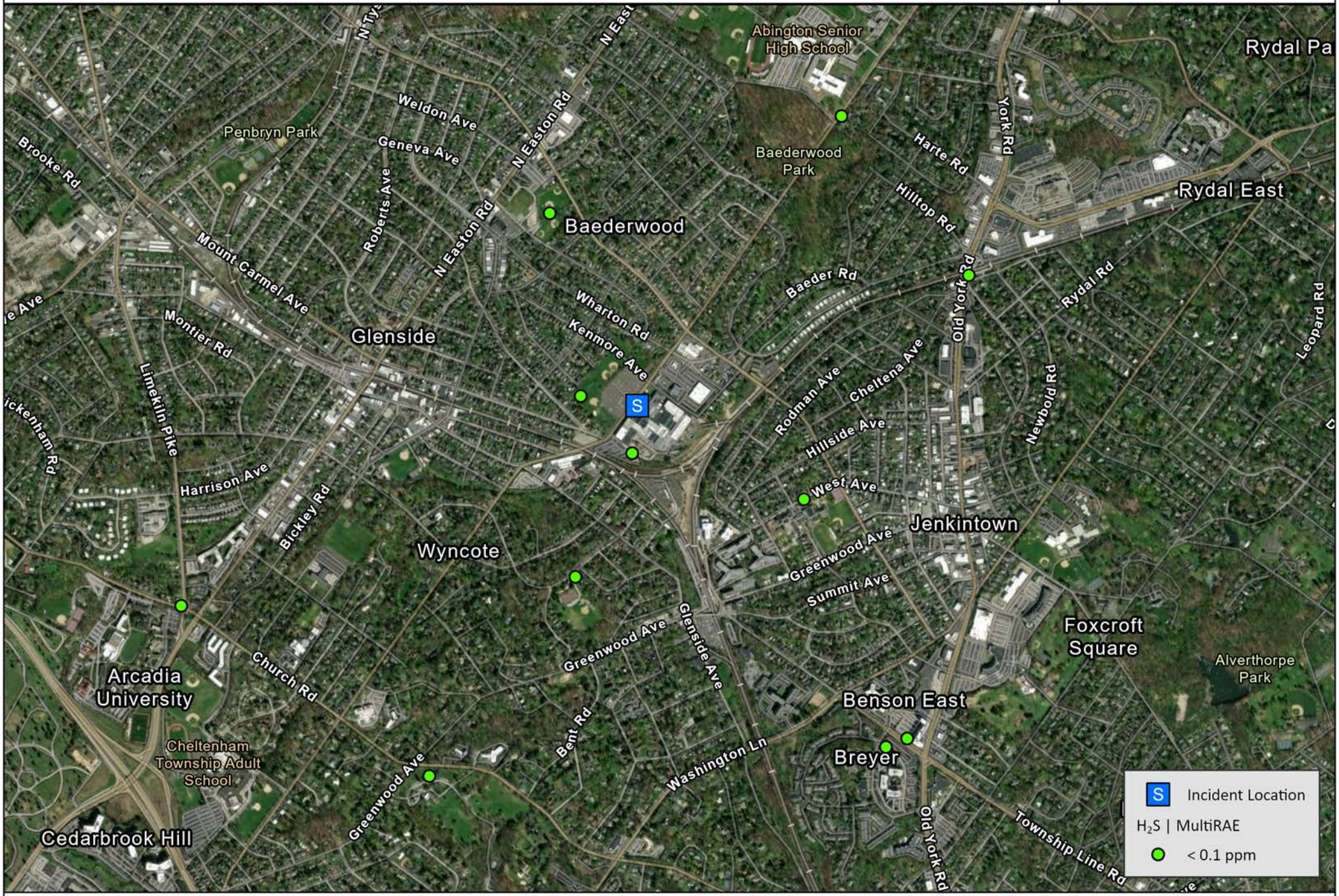
Updated At: 3/14/2025 9:17 AM

CTEH®

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

SPS Technologies Fire | 03/13/2025 06:00 to 03/14/2025 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

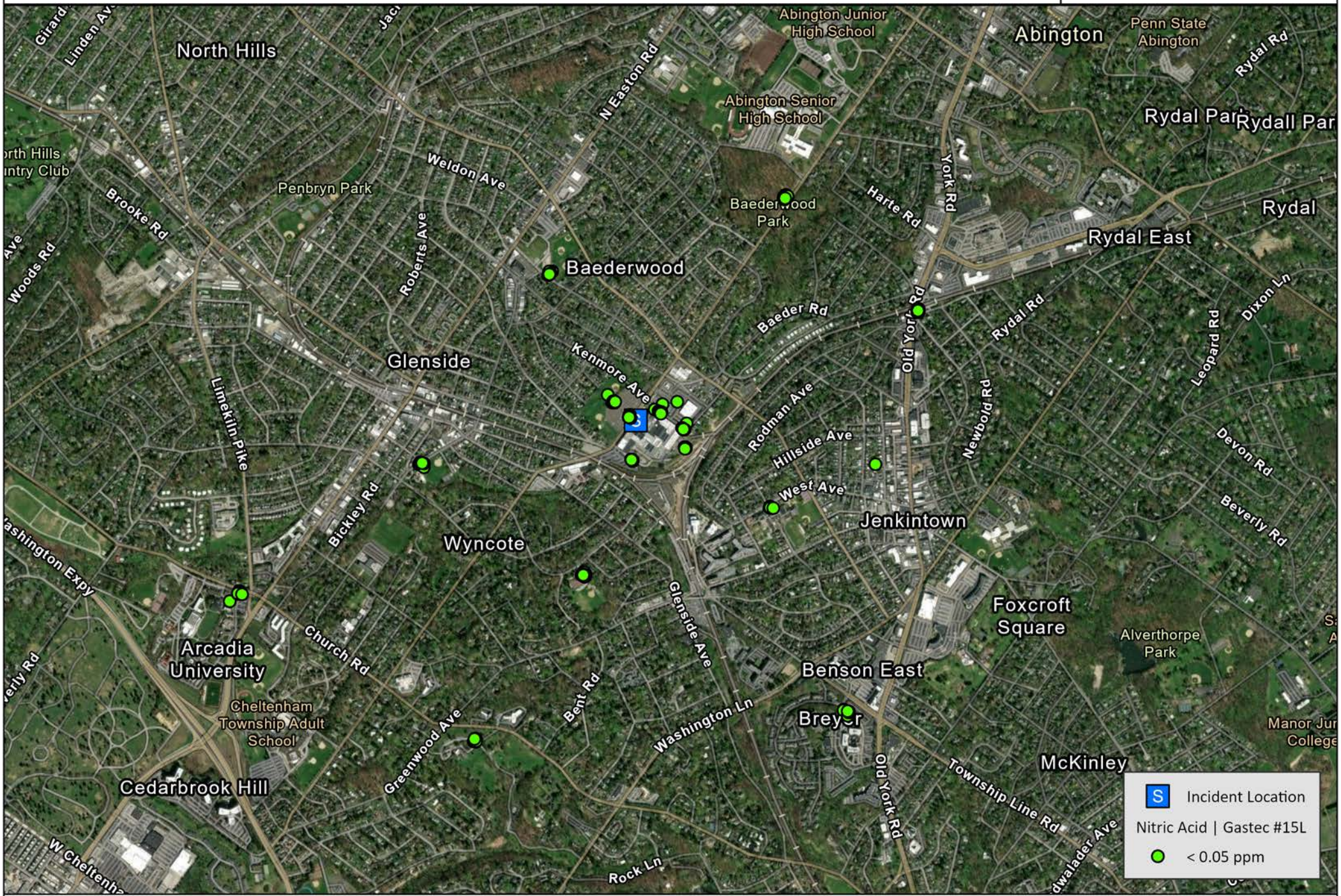
0 1,000 Feet

Updated At: 3/14/2025 9:17 AM

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

SPS Technologies Fire | 03/13/2025 06:00 to 03/14/2025 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

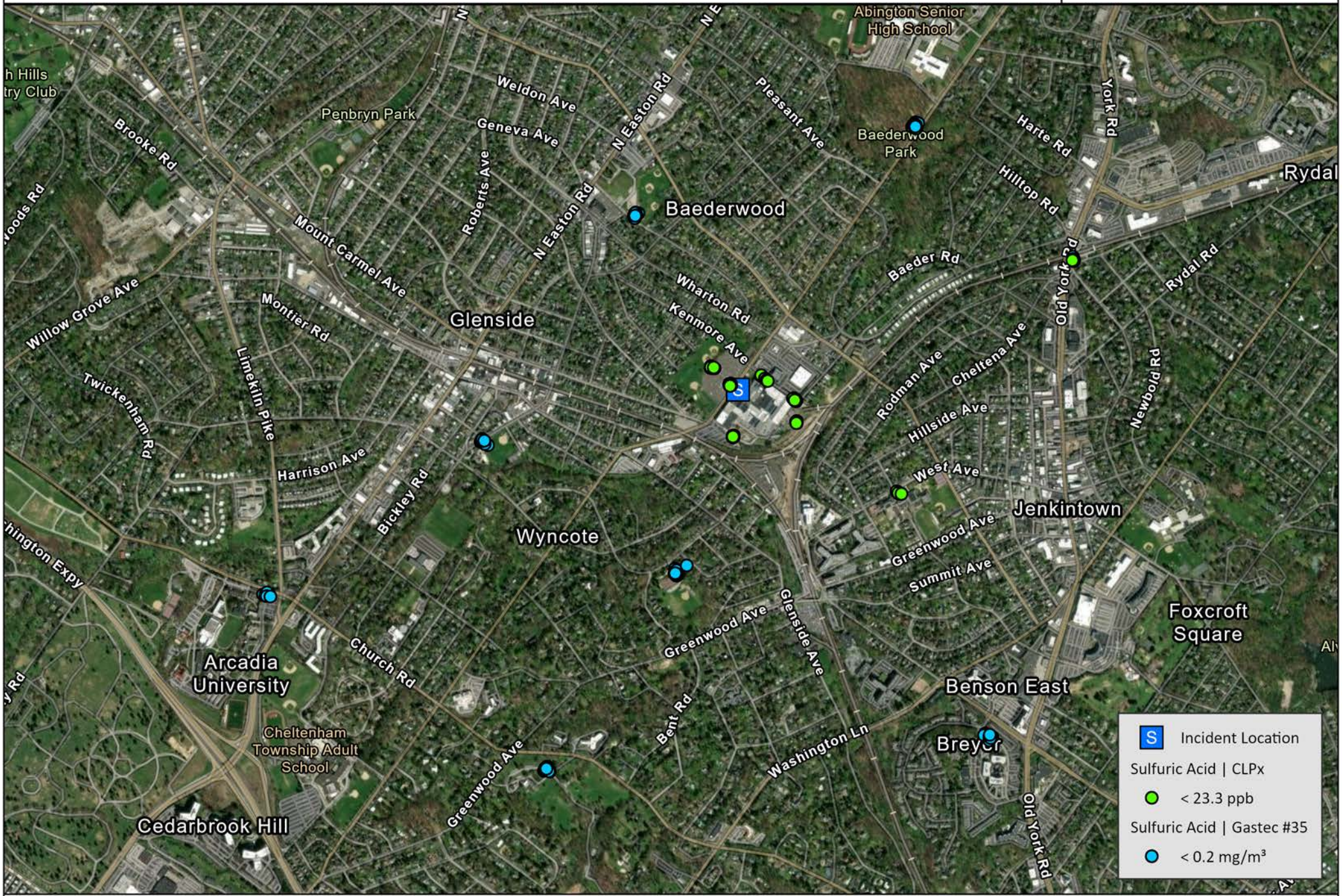
0 1,000 Feet

Updated At: 3/14/2025 9:18 AM

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

SPS Technologies Fire | 03/13/2025 06:00 to 03/14/2025 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: 3/14/2025 9:19 AM

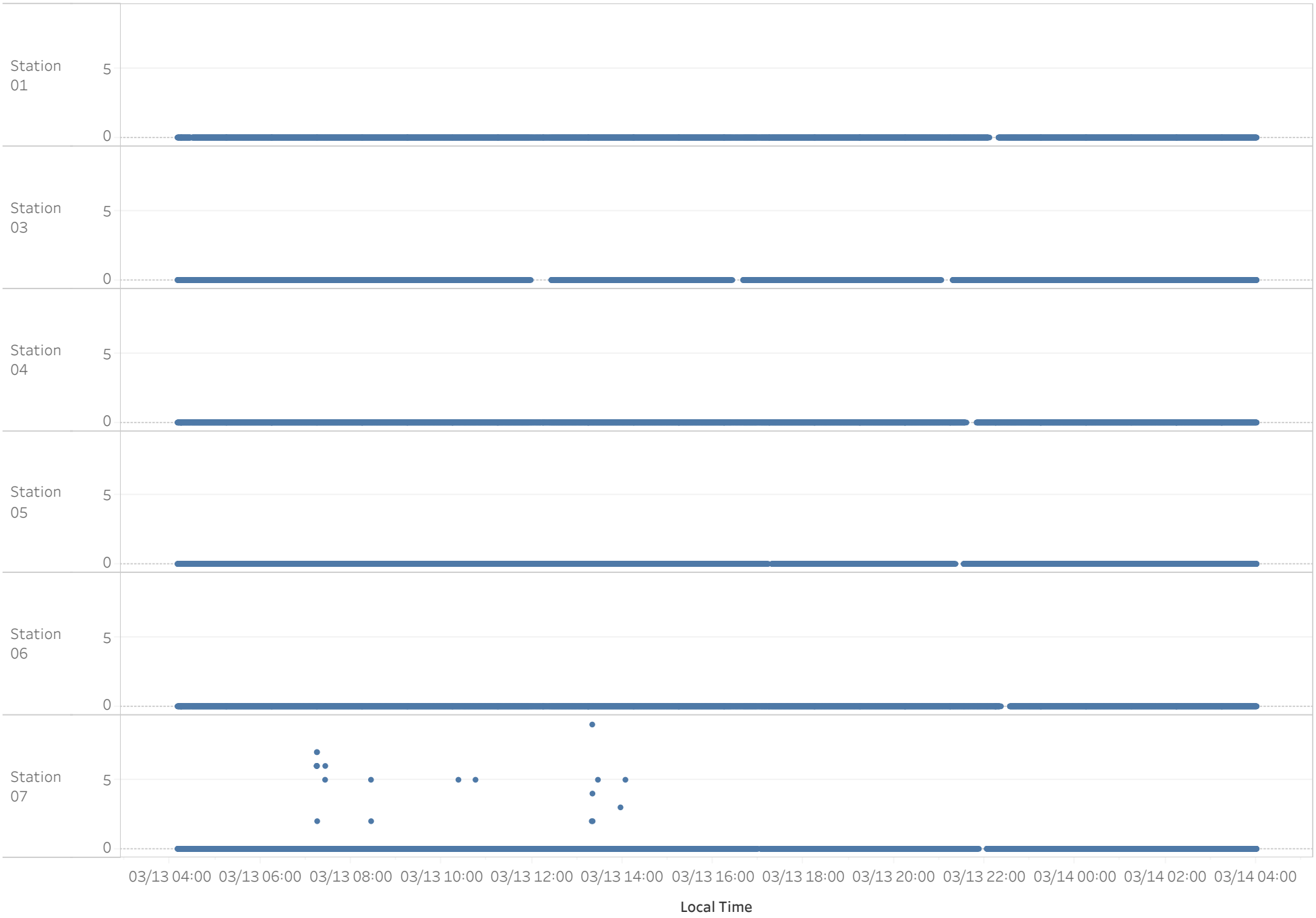
Attachment B

Stationary Real-Time Perimeter Monitoring Graphs

Preliminary Fixed Station Real-time Air Monitoring Readings

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

3/13/2025 4:09:08 AM to 3/14/2025 4:00:06 AM | **Analyte: CO (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

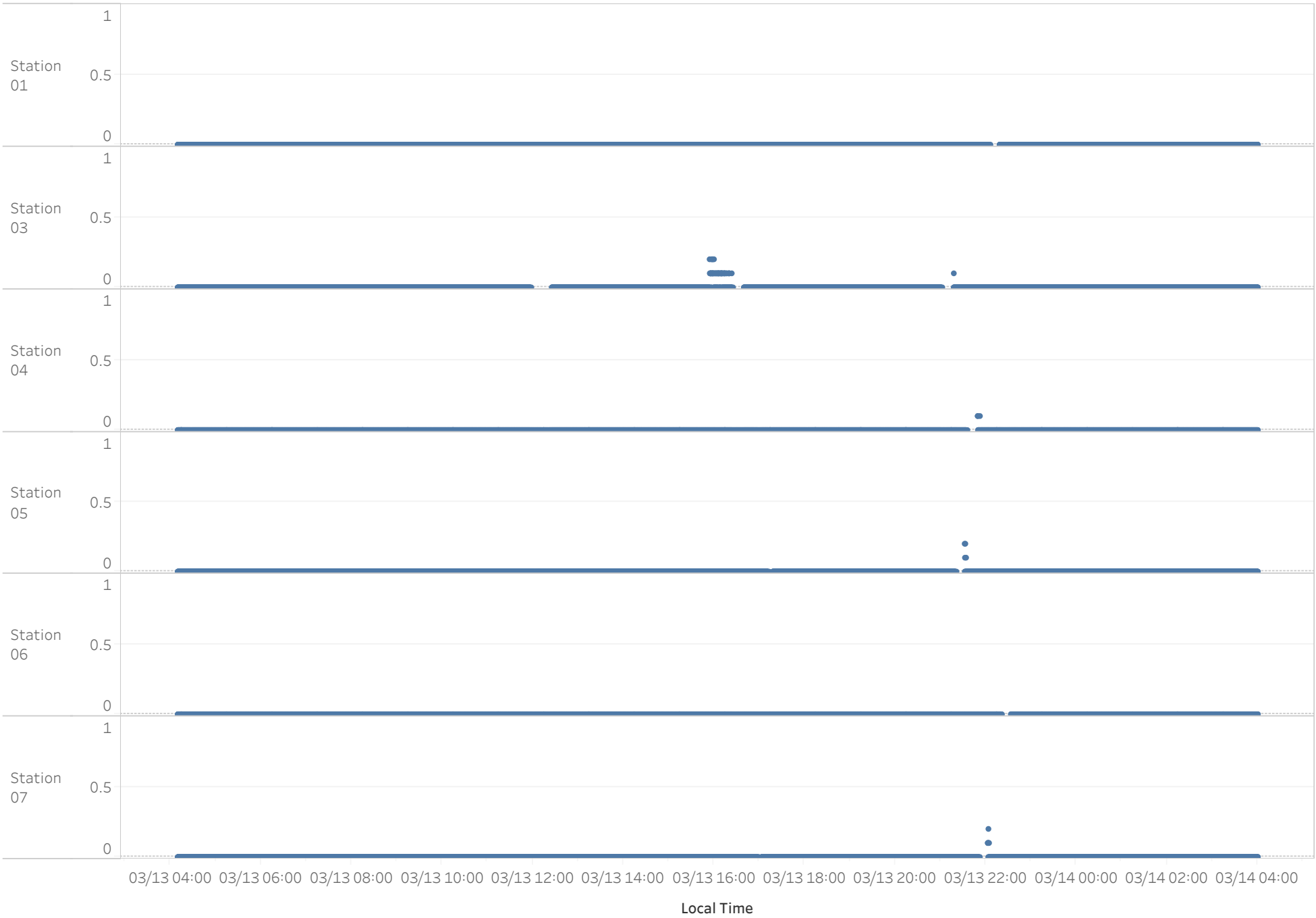
PROJ-052216 | SPS Technologies Fire | Abington Township, PA

3/13/2025 4:09:08 AM to 3/14/2025 4:00:06 AM | **Analyte: H2S (ppm)**

Preliminary Fixed Station Real-time Air Monitoring Readings

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

3/13/2025 4:09:08 AM to 3/14/2025 4:00:06 AM | **Analyte: HCN (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

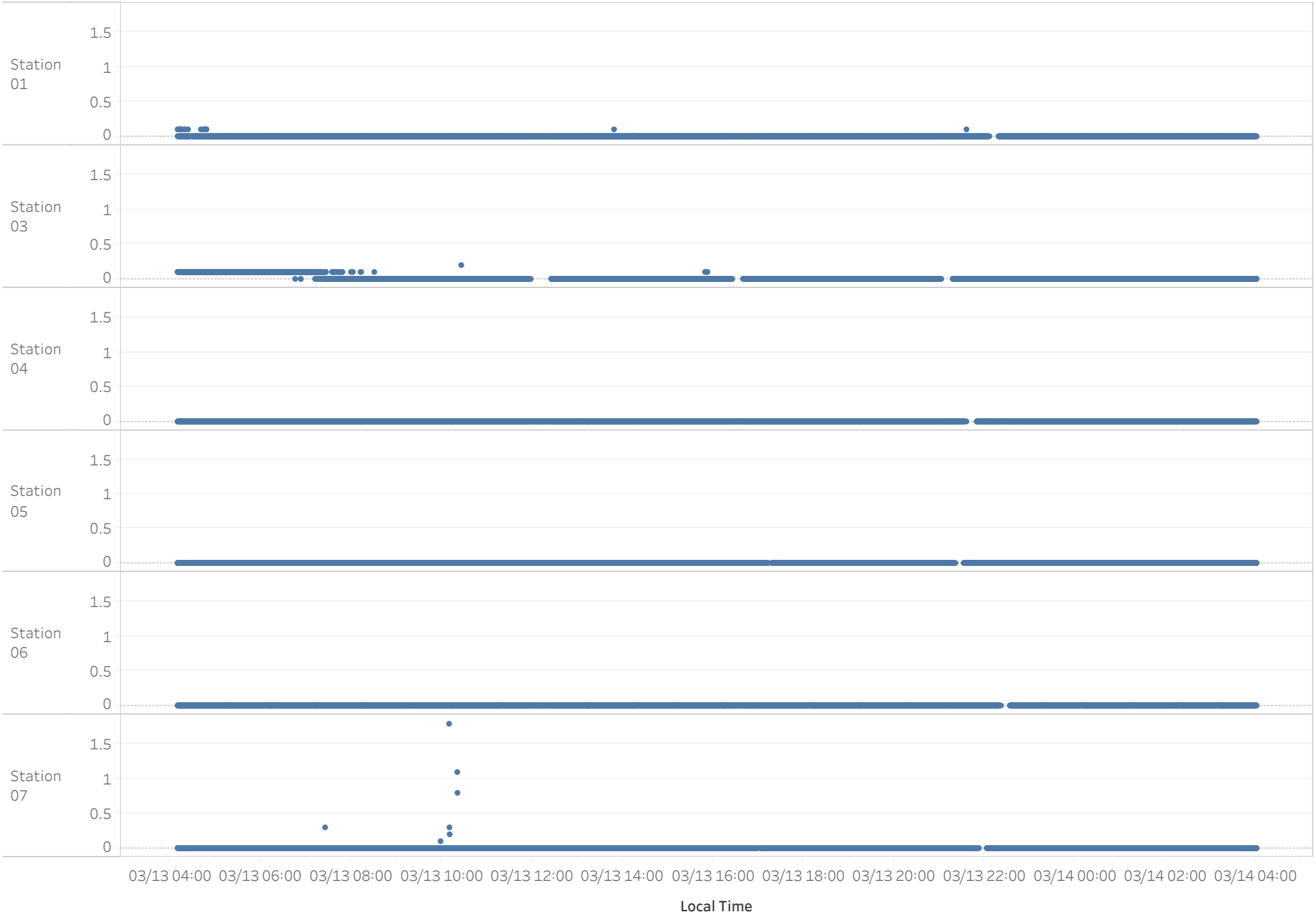
PROJ-052216 | SPS Technologies Fire | Abington Township, PA

3/13/2025 4:09:08 AM to 3/14/2025 4:00:06 AM | **Analyte: LEL (%)**

Preliminary Fixed Station Real-time Air Monitoring Readings

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

3/13/2025 4:09:08 AM to 3/14/2025 4:00:06 AM | **Analyte: VOCs (ppm)**

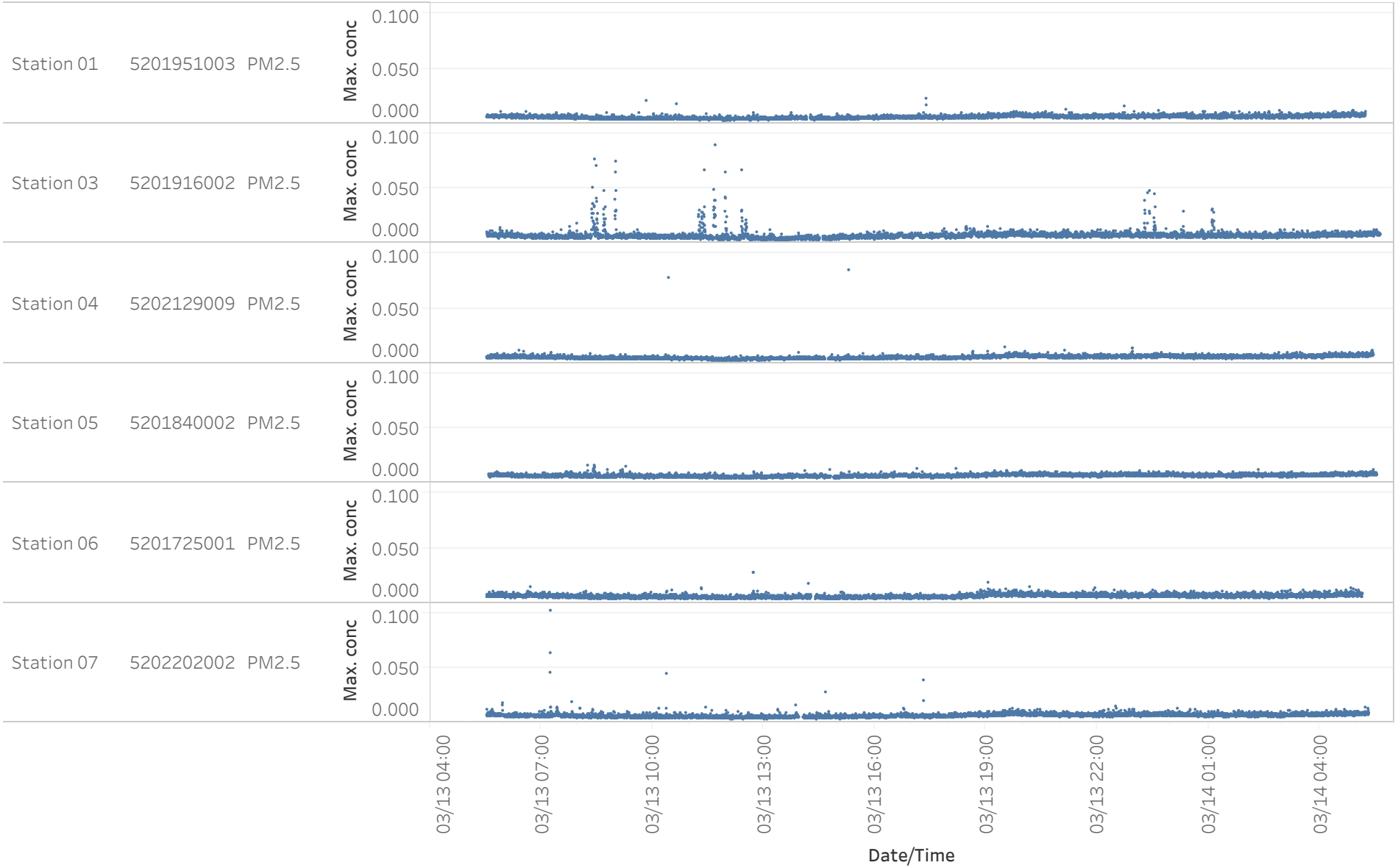


PROJ-052216 | PM2.5 Graph

SPS Technologies Fire | Abington Township, PA

03/13 05:31 to 03/14 05:37

Unit	Serial Number	Particle Size
Station 01	5201951003	PM2.5
Station 03	5201916002	PM2.5
Station 04	5202129009	PM2.5
Station 05	5201840002	PM2.5
Station 06	5201725001	PM2.5
Station 07	5202202002	PM2.5



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	5,668	5,668	0.003	0.023	0.006
Station 03	PM2.5	5,764	5,764	0.002	0.090	0.007
Station 04	PM2.5	5,720	5,720	0.003	0.085	0.006
Station 05	PM2.5	5,732	5,732	0.004	0.016	0.007
Station 06	PM2.5	5,642	5,642	0.004	0.028	0.007
Station 07	PM2.5	5,677	5,677	0.003	0.103	0.006

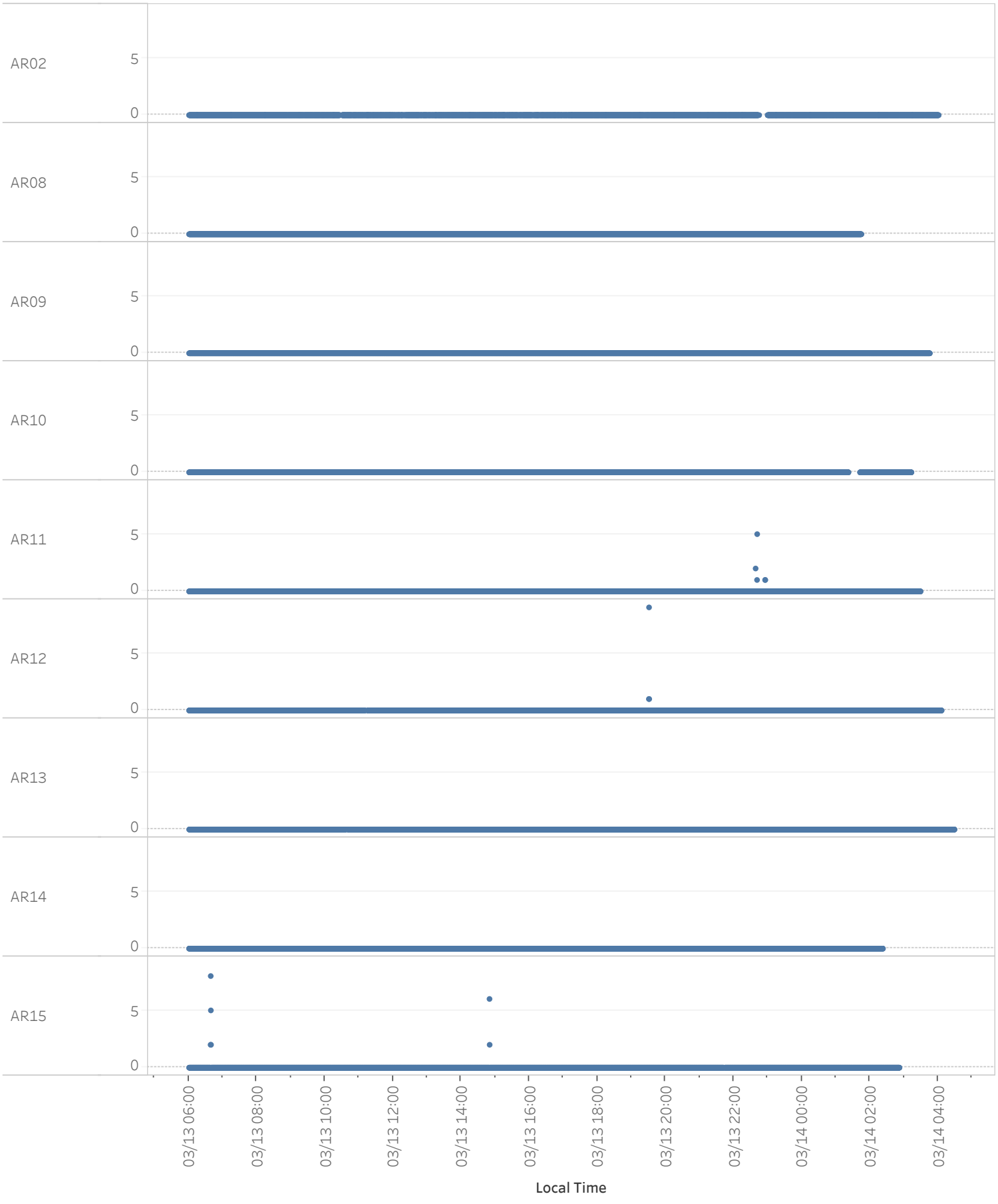
Attachment C

Stationary Real-Time Community Monitoring Graphs

Preliminary Fixed Station Real-time Air Monitoring Readings

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

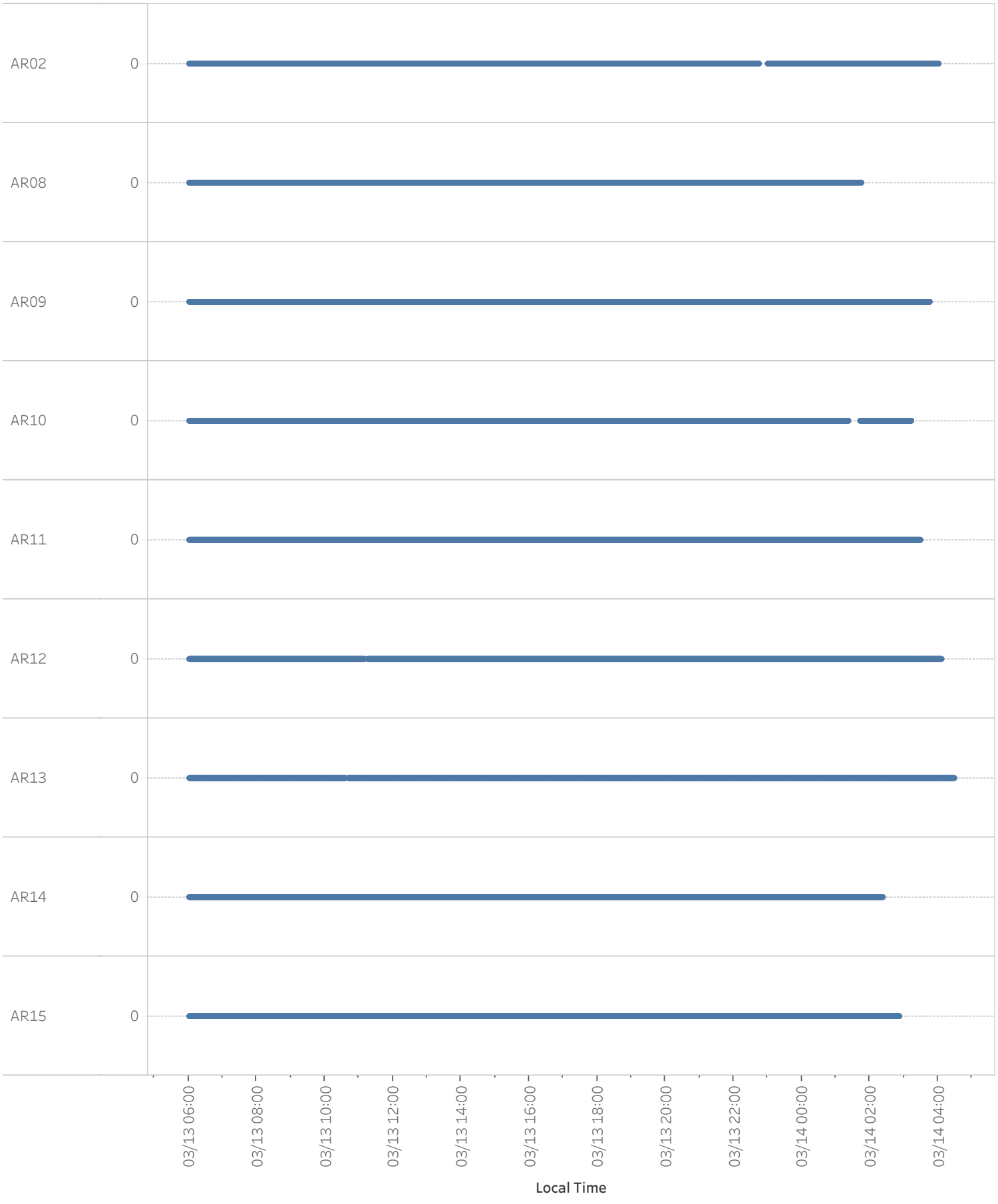
3/13/2025 6:00:00 AM to 3/14/2025 4:28:04 AM | **Analyte: CO (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

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

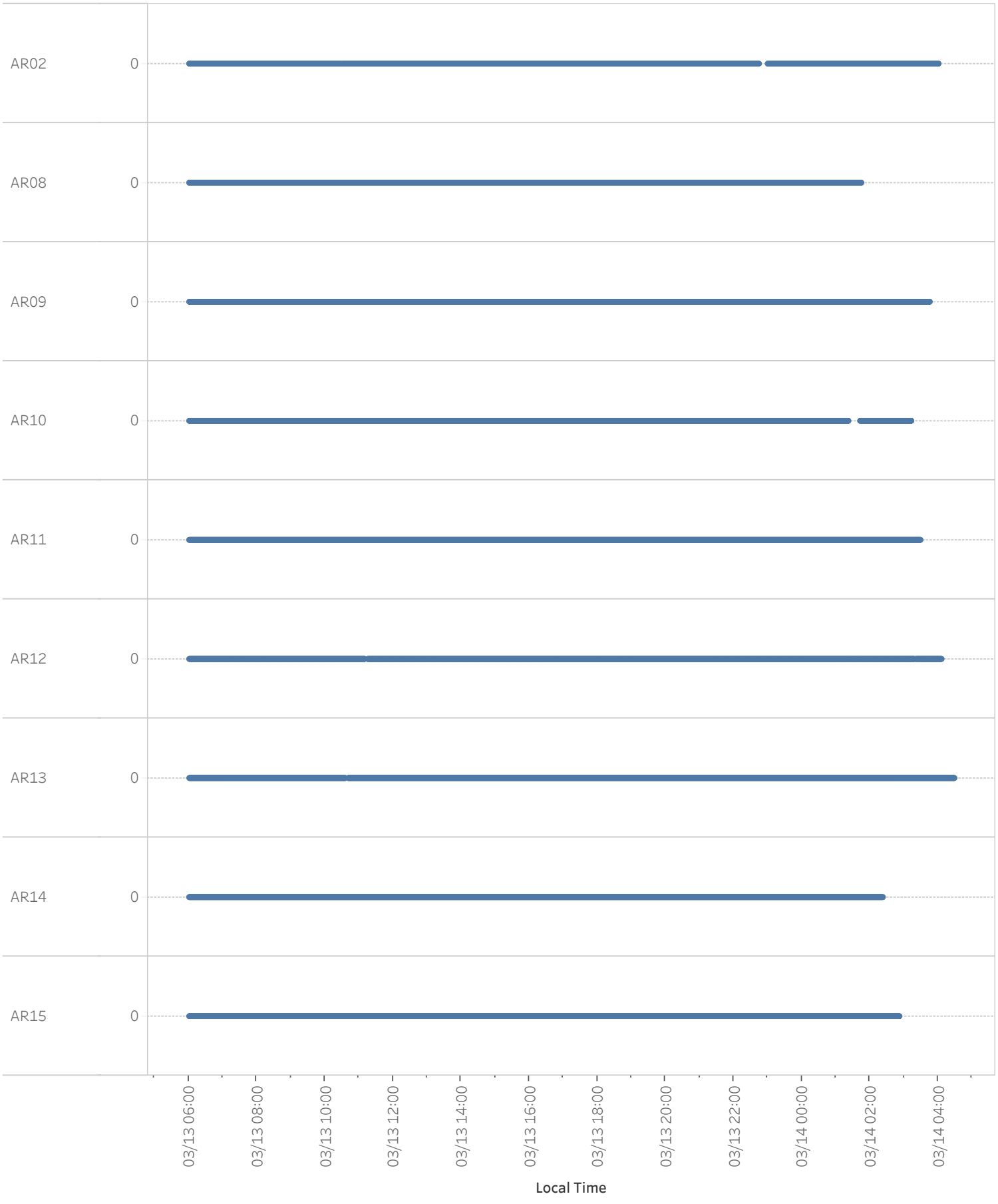
3/13/2025 6:00:00 AM to 3/14/2025 4:28:04 AM | **Analyte: H2S (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

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

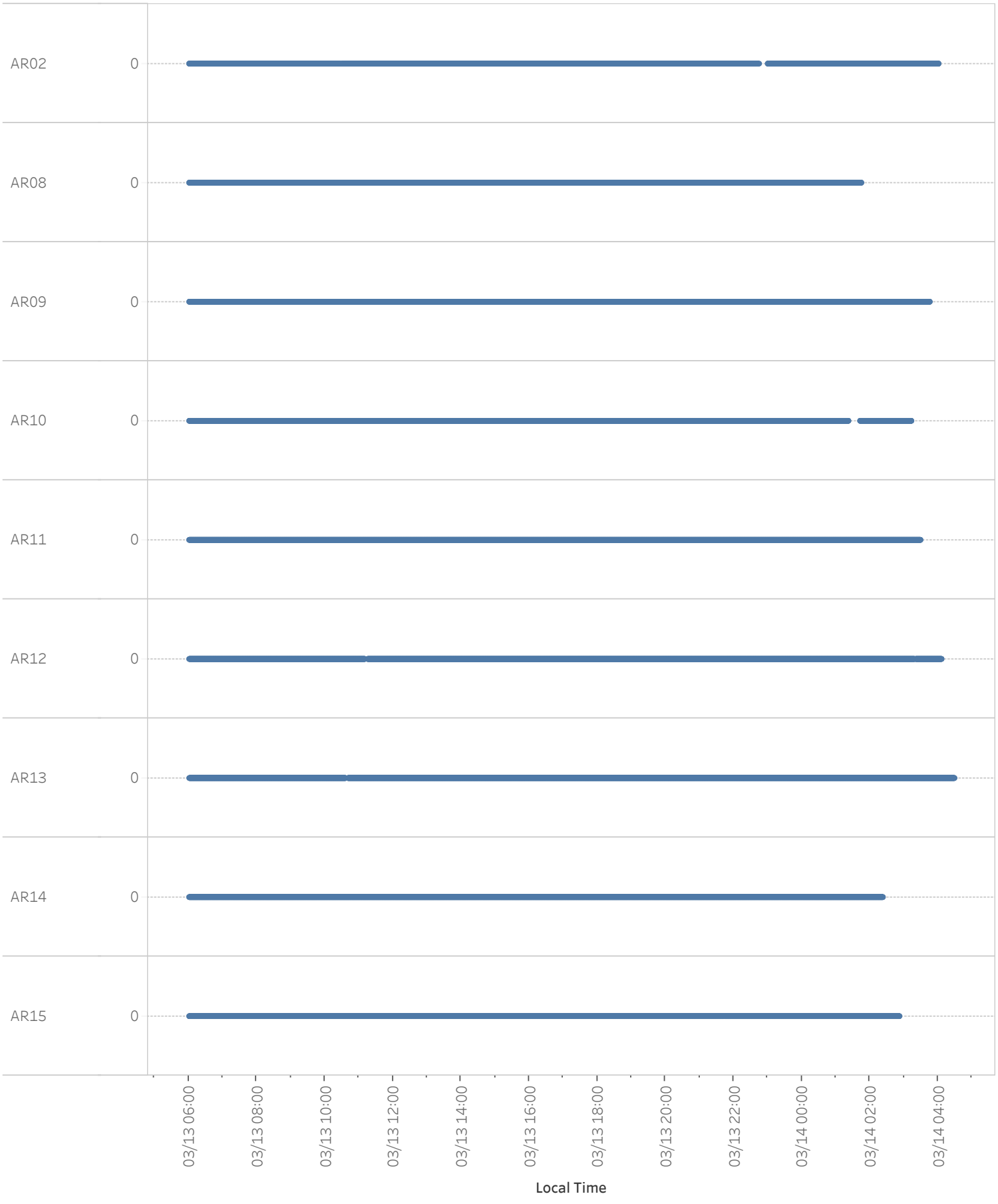
3/13/2025 6:00:00 AM to 3/14/2025 4:28:04 AM | **Analyte: HCN (ppm)**



Preliminary Fixed Station Real-time Air Monitoring Readings

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

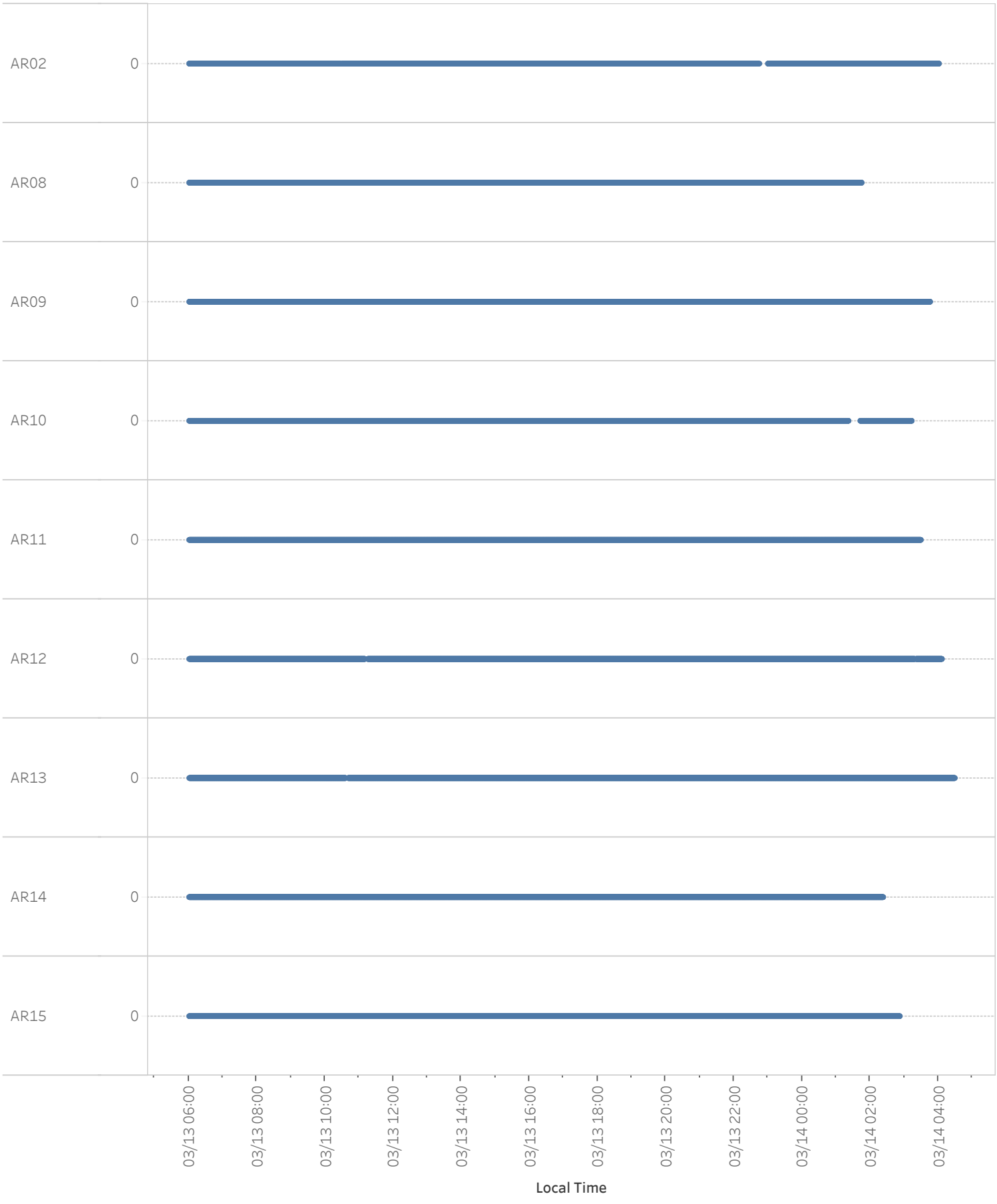
3/13/2025 6:00:00 AM to 3/14/2025 4:28:04 AM | **Analyte: LEL (%)**



Preliminary Fixed Station Real-time Air Monitoring Readings

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

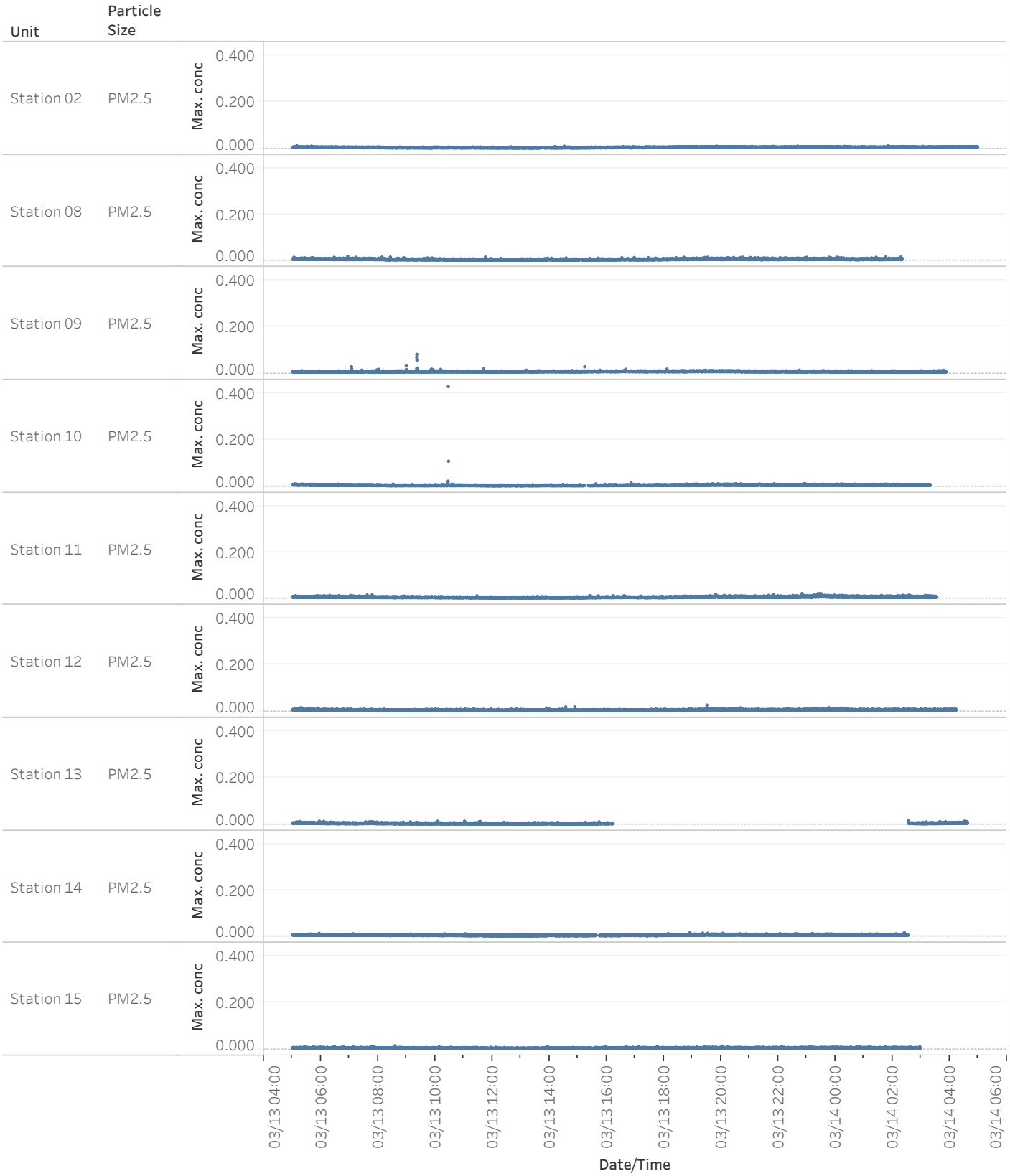
3/13/2025 6:00:00 AM to 3/14/2025 4:28:04 AM | **Analyte: VOCs (ppm)**



PROJ-052216 | PM2.5 Graph | Expanded Community

SPS Technologies Fire | Abington Township, PA

03/13 05:00 to 03/14 04:58



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

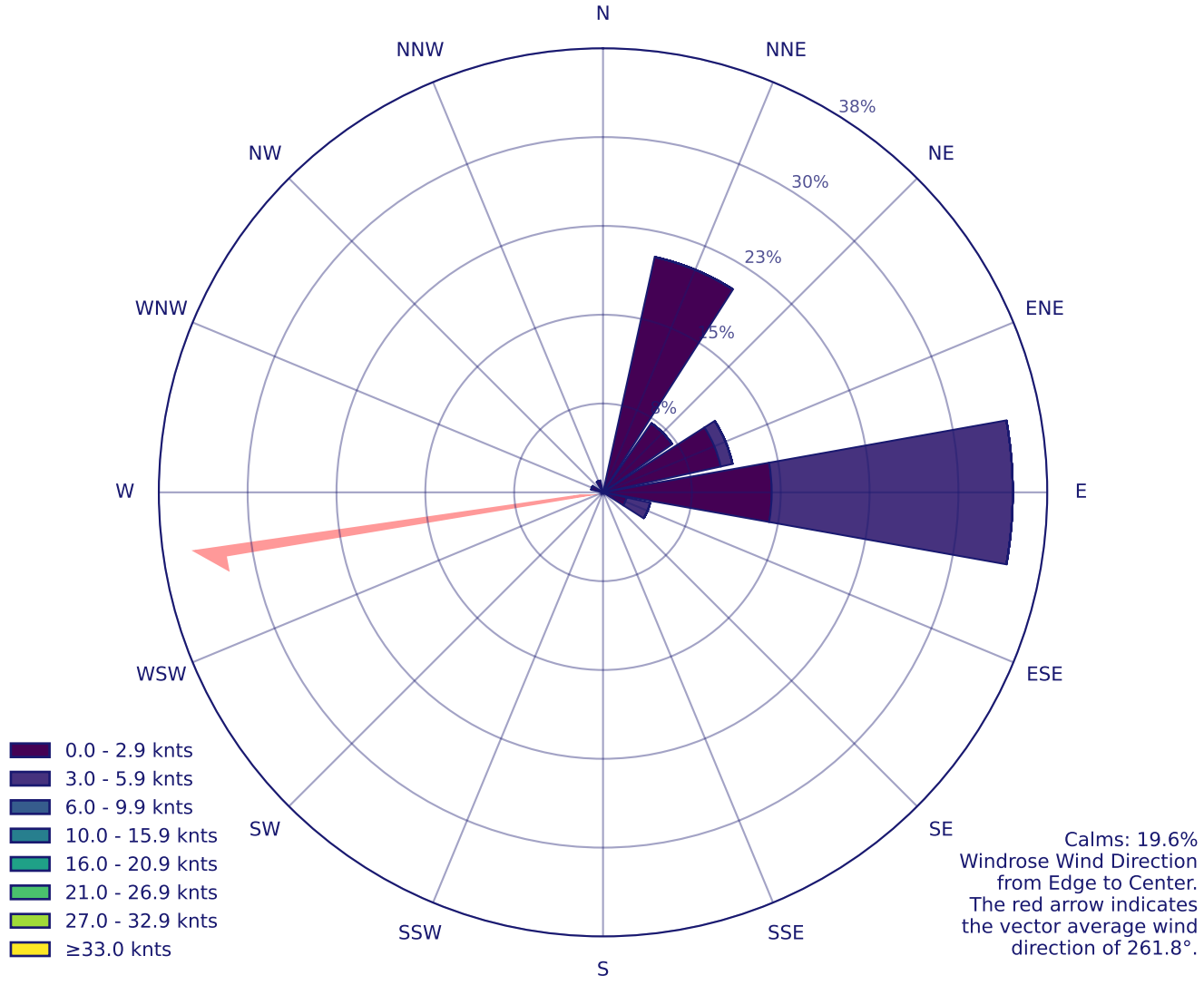
Unit	Particle Size	Count of Records	Count of Detections	Min. concentration	Max. concentration	Avg. concentration
Station 02	PM2.5	5,729	5,729	0.003	0.013	0.006
Station 08	PM2.5	5,082	5,082	0.002	0.018	0.005
Station 09	PM2.5	5,449	5,449	0.006	0.082	0.009
Station 10	PM2.5	5,329	5,329	0.003	0.429	0.006
Station 11	PM2.5	5,369	5,369	0.002	0.022	0.006
Station 12	PM2.5	5,549	5,549	0.003	0.027	0.006
Station 13	PM2.5	3,179	3,179	0.001	0.016	0.004
Station 14	PM2.5	5,140	5,140	0.002	0.016	0.005
Station 15	PM2.5	5,247	5,247	0.002	0.015	0.005

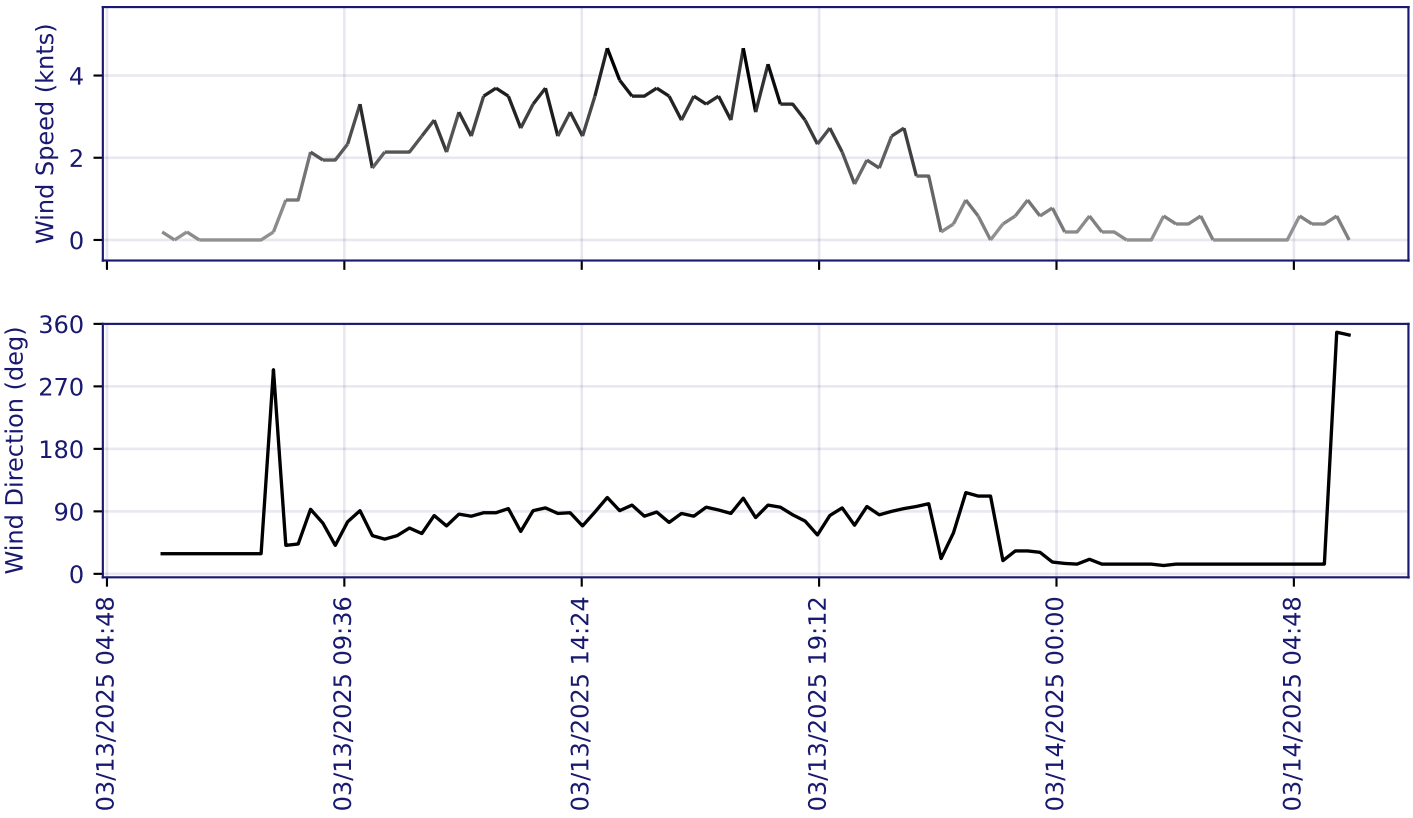
Attachment D

Meteorological Conditions

CTEH

Weather Station: KESTREL (MET 3)- PA
03/13/2025 05:55 TO 03/14/2025 05:55





CTEH

Weather Station: PHILADELPHIA NE
03/13/2025 06:54 TO 03/14/2025 05:54